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Requestor's VANDERVEGT Serial Number: 09/027,777
Date: 6/14/99 Phone: 305-6997 Art Unit: 1644 9E03
Search Topic: Please write a detailed statement of search topic. Describe specifically as possible the subject matter to be searched. Define any terms that may have a special meaning. Give examples or relevent citations, authors, keywords, etc., if known. For sequences, please attach a copy of the sequence. You may include a copy of the broadest and/or most relevent claim(s).
PLEASE PERFORM A RUSH INTERFERENCE AND
DATABASE SEARCH OF SEQID NOS
1, 2, AND 3,
AS WELL AS A CONSTRUCT OF SEQ
SEQ ID NOS: 2,1,3 N THAT ORDER. Chistophic of Contact 12 AS A CODSTILLATION SEQ ID NOS: 2,1,3 N THAT ORDER. THANKS,
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STAFF USE ONLY
Number of Databases: Structure Other MT

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Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed Jun 16 13:13:53 1999; MasPar time 3.60 Seconds 100.489 Million cell updates/sec Run on:

Tabular output not generated.

>US-09-027-777B-1 (1-17) from USO9027777B.pep 137 1 CFGGRMDRIGAQSGLGC 17 Title:

Description: Perfect Score: Seguence:

PAM 150 Gap 15 Scoring table:

Minimum Match 0% Listing first 45 summaries Post-processing:

170751 seqs, 21266608 residues

Searched:

Database:

a-geneseq35
l:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7 8:part8 9:part9 10:part10 11:part11 12:part12 13:part13 14:part14 15:part15 16:part16 17:part17 18:part18 19:part14 20:part20 21:part21 22:part22 23:part23 24:part24 25:part25 26:part26 27:part27 28:part28 29:part29 30:part30 31:part31 32:part32 33:part33 34:part39 35:part39 35:part39

Mean 19.929; Variance 62.491; scale 0.319 Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

NO.	.63e-08	.63e-08	80-	80-5	63e-08	80-6	80-š	63e-08	63e-08	80-6	80-6	63e-08	80-ć	80-6	80-š	63e-08
Pred.	5.636	5.636	5.63e-08	5.63e-08	5.636	5.63e-08	5.63e-08	5.636	5.63	5.63e-08	5.63e-08	5.636	5.63e-08	5.63e-08	5.63e-08	5.63
Description	Human cardiodilatin f	Sequence encoded by h	[D-Cys146]hANVP(127-1	[Arg129][D-Cys146]hAN	[Arg129][D-Ser148]hAN	Alpha human atrial na	Human Atrial Natriure	[Arg129][D-Ser148]hAN	[D-Arg129]hANVP(130-1	[Arg129][D-Ser148]hAN	hANVP(127-149)-NH2.	Seguence of aldostero	[D-Ser128]rANVP(126-1	[D-Asn147]rANVP(127-1	[D-Cys146]hANVP(127-1	[D-Phe149]hANVP(127-1
QI .	P80902	R04085	R40480	R40641	R40647	W70089	P82832	R40646	R40651	R40645	R40395	P71467	R40509	R40482	R40475	R40494
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19 AA;

Sequence.

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39]rANN 36]rANN 36]ran	Fusion protein compri 5 Alpha-human atrial na 5 Human gamma atrial na 5 Human atrial natriure 5 CLa protective peptid 5 Beta-gal leader and p 5 Beta-gal leader and p 5 Cardiodilatin peptide 5
R40441 R404489 R40746 P50113 W71624 W70087 W62656 P500178 R31109 R31109 R31109 R30042 R3004 R30042 R3004 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R30042 R3	W21945 P81211 R00582 W34533 R13325 R21677
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ALIGNMENTS

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R40647 standard; Protein; 21 AA.
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R40641 standard; Protein; 21 AA.
R40641;
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Best Local Similarity 100.0%;
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01-JUN-1984; US-616488.
08-MAY-1985; US-766030.
05-JUN-1986; US-870795.
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WPI; 93-175525/21
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09-APR-1984;
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18-MAY-1993.
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human and canine
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The sequences given in R40387-748 are atrial natriuretic/ vasodilator peptide (ANVP) CDNAs. These ANVP fragments may be used
                                       Gaps
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14.SEP-1993 (first entry)
16.Cys146]hANVP(127-146)-NH2.
Human: pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
                                                                                                                                                                                   01-JUN-1990 (first entry)
Sequence encoded by human natriuretic peptide cDNA.
Porcine BNP: natriuretic; diuretic; vasodilator; hypertension.
Sus scrofa.
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Pred. No. 5.63e-08;
....matches 0; Indels
 Length 19;
                                       0; Indels
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31-MAY-1989; 02373.
31-MAY-1988; US-2006470.
14-UNW-1988; US-299880.
(CALB) Callf Blotech Inc.
Sellhamer JJ, Lewicki J, Scarborough RM, Porter GJ; WPI: 90-007453/01.
 Score 137; DB 1;
Pred. No. 5.63e-08;
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20
/note= "Amidated C-terminal"
                                       0; Mismatches
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R40480 standard; Protein; 20 AA.
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R04085 standard; protein; 20 AA
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01-JUN-1984; US-616488.
08-MXY-1985; US-766030.
05-JUN-1986; US-760705.
(SCIO-) SCIOS NOVA INC.
LEWICK! JA, SCARDOFOUGH RM:
WPI; 93-175525/21.
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09-APR-1984; 602117
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for regulation of fluid volume and blood pressure in host organisms. These ANVP fragments may be produced by solid-phase techniques. See also R36937-78.
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14-SEP-1993 (first entry)
15-SEP-1993 (first entry)
16-SEP-1993 (first entry)
16-SEP-1993 (first entry)
17-SEP-1993 (first entry)
18-SEP-1993 (first entry)
18-SEP-199
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[Arg12][D-78146]hANVP(129-149)-NH2.
Human; pre-pro: atrial natriuretto/vasodilator peptide; ANVP;
regulation; fluid volume; blood pressure.
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Pred. No. 5.63e-08;
......tches 0; Indels
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Pred. No. 5.63e-08;
0; Mismatches 0;
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2..18
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Human Atrial Natriuretic Polypeptide analogue - having strong diuretic,
  Human Atrial Natriuretic Polypeptide analogue.
Human atrial natriuretic polypeptide; hypotensive; diuretic; beta-LANP.
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The sequences given in R40387-748 are atrial natriuretic/
vasodilator peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms.
These ANVP fragments may be produced by solid-phase techniques. See also R36937-78.
                                                                                                                                                                                                                                                                natriuretic and hypotensive action.

Claim 1; page 2; 20pp; English.

This sequence differs from that of natural human atrial natriuretic polypeptide (hAMP) in that the N-terminal 6 residues are deleted. It is present in dimeric form and is useful as a diuretic, natriuretic or hypotensive. It has an application in the treatment or prevention of e.g. cardiac cedema or malignant hypotrension.

It is an intermediate for the synthesis of beta-LAMP or analogues.
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regulation; fluid volume; blood pressure.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 137; DB 1; Length 22; Pred. No. 5.63e-08;
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[Arg129][D-Ser148]hANVP(130-150)-NH2.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Location/Qualifiers disulfide_bond 2..18 misc_difference 20
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R40646 standard; Protein; 22 AA.
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WPI; 93-175525/21.
                                                                                                                                                              (SHIO) Shionogi Seiyaku KK.
Kambayashi Y<sub>l</sub> Inouye K.;
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les 17; Conservation
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Local Similarity 100.0%;
les 17; Conservative
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09-APR-1984; 602117.

09-APR-1984; US-602117.

01-JUN-1984; US-616488.

08-MAY-1985; US-766030.

05-JUN-1986; US-766030.

(SCIO-) SCIOS NOVA INC.

LEWICK! JA, SCAIDOFOUGH
                                                                                            04-MAY-1988.
26-OCT-1987; 202052.
27-OCT-1986; JP-255312.
                                                                                                                                                                                            Kambayashi Y, Inou
WPI; 88-121118/18.
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Matches
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Matches
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     KWE NE PRONKE PR
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                This represents a human alpha atrial natriuretic peptide sequence (alpha-hANP). The invention provides a composition for treating cardiac diseases associated with cardiac hypertrophy. The composition comprises an active ingredient capable of binding to the peptide receptor of GG-A and promoting production of cGMP. The drug composition may be used and promoting production of cGMP. The drug composition may be used cinically to treat cardiac diseases caused by cardiac hypertrophy, including chronic heart failure, ischeamt cardiac diseases and arrhythmia. The active substance can bind to the natriuretic peptide receptor of GG-A and promote production of GGMP, effectively preventing cardiac hypertrophy and leading to improvement of the pulmonary blood circulation. The substance does not affect haemodynamic properties,
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Alpha human atrial natriluretic peptide (alpha-hANP) 2 (residues 7-28).
ANP: atrial natriluretic peptide; cardiac disease; cardiac hypertrophy; chronic heart failure; ischaemic cardiac disease; arrhythmia; cGMP; pulmonary blood circulation; haemodynamic property.
                                                                                                                                                                                                                                       Disclosure; Column 49; 45pp; English.
The sequences given in R40387-748 are atrial natriuretic/vasodilator peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms. These ANVP fragments may be produced by solid-phase techniques. See also R36937-78.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Drug composition comprises natriuretic peptide(s) - for safe treatment of cardiac hypertrophy associated diseases and chronic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
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                                                                                                                                                                                         New polypeptide cpd. - useful as natriuretic, diuretic and/or
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                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 137; DB 35; I
Pred. No. 5.63e-08;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 137; DB 7; 1
Pred. No. 5.63e-08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               05-FEB-1998; J00483.
05-FEB-1997; JP-022594.
CSUNR) SUNTORY LTD.
FUTUYN M, HIGARA T, INOMATA N, YAMAKI A;
WPI; 98-446949/38.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Examples; Page 23; 35pp; Japanese.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    л 6
W70089 standard; peptide; 22 AA.
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                                                                                                                                          Lewicki JA, Scarborough RM; WPI; 93-175525/21.
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Best Local Similarity 100.0%;
Matches 17; Conservative
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Best Local Similarity 100.0%;
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04-DEC-1990 (first entry)
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                    09-APR-1984; US-602117.
01-JUN-1984; US-616488.
08-MAY-1985; US-766030.
05-JUN-1986; US-870795.
                                                                                                                                                                                                                     vasodilator in mammals
                                                                                                                (SCIO-) SCIOS NOVA INC
Lewicki JA, Scarborou
                                                                                                                                                                                                                                                                                                                                                                                        21 AA:
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                                                                                                                                                                                                                                                                                                                                                                                      Sequence
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misc_difference
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modified_site
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The sequences given in R40387-748 are atrial natriuretic/ vasodilator peptide (ANVP) CDNAs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms. These ANVP fragments may be produced by solid-phase techniques. See also R36937-78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          vasodilator in mammals
Disclosure: Column 49: 45pp; English.
The sequences given in R40387-748 are atrial natriuretic/
vasodilator peptide (ANVP) cDNAs. These ANVP fragments may be used
for regulation of fluid volume and blood pressure in host organisms.
These ANVP fragments may be produced by solid-phase techniques. See
also R36937-78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                     14-5EP-1993 (first entry)
[10-Arg129]hanvP(i30-151).
Human: pre-pro: atrial natriuretic/vasodilator peptide: ANVP: rat; regulation: fluid volume; blood pressure.
Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LT 10
R40645 standard; Protein; 23 AA.
R40645;
14-SEP-1993 (first entry)
Arg1291[D-Serids]hANVP(130-151].
Human; pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
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WPI; 93-175525/21
New polypeptide cpd. - useful as natriuretic, diuretic and/or
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Pred. No. 5.63e-08;
0; Mismatches 0; Indels
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                                                                                                                                                                                                                               /note= "D-form residue"
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                                                                                                                                           Location/Qualifiers
2..18
R40651 standard; Protein; 23 AA. R40651;
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Lewicki JA, Scarborough RM;
WPI; 93-175525/21.
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Best Local Similarity 100.0%;
Matches 17; Conservative
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09-APR-1984, US-602117.
101-1984, US-616488.
08-MAY-1985, US-166030.
05-JUN-1986, US-870795.
                                                                                                                                                                                                                                                                        18-MAY-1993.

09-APR-1984; 602117.

09-APR-1984; US-602117.

01-JUN-1984; US-616488.

08-MAY-1985; US-766030.

05-JUN-1986; US-766030.

(SCIO-) SCIOS NOVA INC.

LEWICK! JA. SCAIPOFOUGH
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misc_difference
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10-MAY-1984; 602117.

PR 09-APR-1984; 602117.

PR 01-JUN-1984; US-61648.

PR 01-JUN-1985; US-766030.

PR 01-JUN-1986; US-766030.

PR 05-JUN-1986; US-766030.

PR 05-JUN-1986; US-870795.

PR 05-JUN-19
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17-AUG-1984; 642131.
17-AUG-1984; US-642131.
(SALK ) SALK INST FOR BIOL STUD. .
Baird JA;
WPI; 87-064498/09.
Aldosterone inhibiting polypeptide - for controlling aldosterone
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P71467;
25-APR-1991 (first entry)
Sequence of aldosterone inhibiting polypeptide,
[desArg32]-hANF(8-33).
Aldosterone dependent hypertension; atrial peptide; natruretic;
diuretic; smooth muscle relaxant.
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Score 137; DB 7; Length 23;
Pred. No. 5.63e-08;
0; Mismatches 0; Indels
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Best Local Similarity 100.0%;
Matches 17; Conservative
   Query Match
Best Local Similarity 100.0%;
Matches 17; Conservative
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                                                                                                                                                                               1 CFGGRMDRIGAQSGLGC 17
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Disclosure; Column 36; 45pp; English.
The sequences given in R40387-748 are atrial natriuretic/
vasodilator peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms. These ANVP fragments may be produced by solid-phase techniques. See also R36937-78.
09-APR-1984; US-602117.
01-JUN-1984; US-616488.
08-MAY-1985; US-766030.
05-JUN-1986; US-870795.
05-JUN-1986; US-870795.
Lewicki JA, Scarborough RM;
WPI: 93-175525/21.
New Polypeptide cpd. - useful as natriuretic, diuretic and/or
                                                                                                                     vasodilator in mammals
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Lewicki JA, Scarborou
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                                                                                                                                                                                                                           25 AA;
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09-APR-1984;
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                                                                                                                                                 Gaps
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The sequences given in R40387-748 are atrial natriuretic/
vasodilator peptide (ANVP) cDNAs. These ANVP fragments may be used
for regulation of fluid volume and blood pressure in host organisms.
These ANVP fragments may be produced by solid-phase techniques. See
also R36937-78.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                            14-SEP-1993 (first entry)
[D-Ser128]ranvP(126-150).
Human; pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Human; pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
                            Aldosterone secretion is inhibited by the administration of a peptide of the invention and its addition salt. It is used for treatment of aldosterone dependent hypertension. Atrial peptides have matruretic, diuretic and smooth muscle relaxant activities. Sequence 25 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       New polypeptide cpd. - useful as natriuretic, diuretic and/or vasodilator in mammals
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Pred. No. 5.63e-08;
0; Mismatches 0; Indels
                                                                                                                  Score 137; DB 2; Length 25;
Pred. No. 5.63e-08;
0; Mismatches 0; Indels
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                   14pp; English
                                                                                                                                                                                                                                                    .T 13
R40509 standard; Protein; 25 AA.
R40509;
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Lewicki JA, Scarborough RM;
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Best Local Similarity 100.0%;
Matches 17; Conservative
                                                                                                                 Query Match
Best Local Similarity 100.0%;
Matches 17; Conservative
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14-SEP-1993 (first entry)
[D-Asn147]rANVP(127-151).
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09-APR-1984; US-602117.
01-JUN-1984; US-616488
08-MAY-1985; US-766030
 dependent hypertension
Example; column 11; 14;
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09-APR-1984; 602117
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misc_difference
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The sequences given in R40387-748 are atrial natriuretic/vasodilator peptide (ANVP) cDRNs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms. These ANVP fragments may be produced by solid-phase techniques. See also R36937-78.
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                                                                Gaps
                                                                                                                                                                                                                                                                       14-SEP-1993 (first entry)
[D-Cys146]hANVP(127-151)
[Mand: pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat; regulation; fluid volume; blood pressure.
Synthetic.
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Score 137; DB 7; Length 25;
Pred. No. 5.63e-08;
....matches 0; indels
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Pred. No. 5.63e-08;
0; Mismatches 0;
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R40475 standard; Protein; 25 .
R40475;
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                 Match 100.0%; Local Similarity 100.0%;
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Best Local Similarity 100.0%;
                                                              17; Conservative
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                                                                                                                               1 CFGGRMDRIGAQSGLGC 17
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08-MAY-1985; US-766030.
05-JUN-1986; US-870795.
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(ME)	Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd MPsrch_pp protein - protein database search, using Smith-Waterman algorithm	Wed Jun 16 13:16:47 1999; MasPar time 1.42 Seconds utput not generated.	Title: >US-09-027-777B-1 Description: (1-17) from US09027777B.pep Perfect Score: 137 Sequence: 1 CFGGRMDRIGAQSGLGC 17	Scoring table: PAM 150 Gap 15	Searched: 106580 segs, 10152877 residues	Post-processing: Minimum Match 0% Listing first 45 summaries	Database: a-issued 1:5A_COMB 2:5B_COMB 3:PCT9_COMB 4:backfiles1	Statistics: Mean 18.618; Variance 55.964; scale 0.333	Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.	Result Query No. Score Match Length DB ID Description Fred. No.	37 100.0 17 2 US-08-737- Sequence 1, 37 100.0 20 4 5212286-30 Patent No.	137 100.0 22 4 5212286-40 Patent No. 5212286. 4.7	137 100.0 23 4 5212286-39 Patent No. 5212286. 4.7	137 100.0 23 1 US-07-828- Sequence 3, Applicatio 4.7 137 100.0 24 4 5212286-28 Patent No. 5212286. 4.7	137 100.0 25 4 5202239-16 Patent No. 5202239. 4.7	0 137 100.0 27 4 5202239-5 Patent No. 5202239. 4.7	137 100.0 28 4 520437-1 Patent No. 5204327. 4.7	3 137 100.0 28 4 5469751-2 Patent No. 5461142. 4.7	5 137 100.0 28 1 US-07-778- Sequence 1, Applicatio 4.7 6 137 100.0 28 1 US-07-828- Sequence 1, Applicatio 4.7	7 137 100.0 28 1 US-07-781- Sequence 12, Applicati 4.7 8 137 100.0 28 3 PCT-US94-0 Sequence 1, Applicatio 4.7	9 137 100.0 28 1 US-07-781- Sequence 13, Applicati 4.7 0 137 100.0 28 1 US-07-828- Sequence 40, Applicati 4.7	137 100.0 28 1 US-07-781- Sequence 14, Applicat1 4.7 137 100.0 28 1 US-08-066- Sequence 2, Applicatio 4.7	3 137 100.0 28 1 US-08-297- Sequence 1. Applicatio 4.7

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24 117 100.0 28 1 US-00-770 Sequence 3, Applicatio 4.72e-09
25 117 100.0 28 1 US-00-710 Sequence 3, Applicatio 4.72e-09
26 117 100.0 28 1 US-00-710 Sequence 2, Applicatio 4.72e-09
27 117 100.0 28 1 US-00-710 Sequence 2, Applicatio 4.72e-09
28 117 100.0 28 1 US-00-710 Sequence 2, Applicatio 4.72e-09
28 117 100.0 28 1 US-00-710 Sequence 2, Applicatio 4.72e-09
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29 117 100.0 28 1 US-00-710 Sequence 2, Applicatio 4.72e-09
20 117 100.0 28 2 US-00-710 Sequence 2, Applicatio 4.72e-09
218 117 100.0 28 2 US-00-710 Sequence 3, Applicatio 4.72e-09
219 117 100.0 210 US-00-710 Sequence 2, Applicatio 4.72e-09
210 117 100.0 21 US-00-710 Sequence 3, Applicatio 4.72e-09
211 117 100.0 132 1 US-00-710 Sequence 3, Applicatio 4.72e-09
212 117 100.0 124 4 S212286-36 Patent NO S212286
213 117 100.0 124 4 S212286-38 Patent NO S212286
214 117 100.0 124 4 S212286-38 Patent NO S212286
225 117 100.0 124 4 S212286-38 Patent NO S212286
226 CONDESSOR PREPARENCE SEQUENCES SEGUENCES SEQUENCES SEGUENCES SEQUENCES SEGUENCES SEG
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APPLICANT: LEMICKI, JOHN A.; SCARBOROUGH, ROBERT M.
TILLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
DEPTIDE COMPUNDS
NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/07/870,795
FILING DATE: 05-UUN-1986
PRIOR APPLICATION UNMBER: 766,330
FILING DATE: 08-MAY-1985
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 766,317
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APPLICANT: LEWICKI, JOHN A.: SCARBOROUGH, ROBERT M.
TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPTIDE COMPUNDS
NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION DATA:
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Pred. No. 4.72e-09;
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Pred. No. 4.72e-09;
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24 AA; 2609 MW; 2891 CN;
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ICE 25 AA; 2627 MW; 3278 CN;
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APPLICATION NUMBER: 616,488
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FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
                                  FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
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Best Local Similarity 100.0%;
Matches 17; Conservative
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Best Local Similarity 100.0%;
Matches 17; Conservative
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LENGIH:
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                                                                                                                                                Score 137; DB 2; Length 17; Pred. No. 4.72e-09; 0; Mismatches 0; Indels
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APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M.
TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPTIDE COMPUNDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR PEPTIDE COMPUNDS
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-UN-1986
FILING DATE: 08-MAY-1985
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
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LENGTH: 20
SEQUENCE 21 AA; 2168 MW; 1969 CN;
                                                                         TOPOLOGY: linear
MOLECULE TYPE: peptide
SEQUENCE 17 AA; 1728 MW; 1172 CN;
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APPLICATION NUMBER: 766,030
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                   LENGTH: 17 amino acids
TYPE: amino acid
STRANDEDNESS:
   SEQUENCE CHARACTERISTICS
                                                                                                                                              Query Match
Best Local Similarity 100.0%;
Matches 17; Conservative
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Best Local Similarity 100.0%;
Matches 17; Conservative
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     0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ; DB 4; Len. 4.72e-09;
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Pred. No. 4.72e-09;
0; Mismatches 0
     Mismatches
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APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-UN-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          . CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/564,259
FILING DATE: 07-AUG-1990
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Pred. No. 4
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FILING DATE: 01-JUN-1984
SEQ ID NO:28:
LENGTH: 24
SEQUENCE 25 AA; 2783 MW; 3330 CN;
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LENGTH: 25
CPOTIFICE 27 AA; 2946 WW; 3843 CN;
                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
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Best Local Similarity 100.0%;
Matches 17; Conservative
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NUMBER OF SEQUENCES: 68
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Best Local Similarity 100.0%;
Matches 17; Conservative
   17; Conservative
                                   7 CFGGRMURIGAQSGLGC 23
                                                     1 CFGGRMDRIGAQSGLGC 17
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                                                                                                                                            STANDARD;
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                                                                                                                                                                                                                                                   Patent No. 5212286,
                                                                                                                                                                                                                                                                                Patent No. 5212286
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5202239-16
                                                                                                                                          5212286-28
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ID 52
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: KITAJINA, YASUO
APPLICANT: FURUYA, MAYUNI
APPLICANT: FURUYA, MAYUNI
APPLICANT: THE OF INVENTION: CNP ANALOG PEPTIDES AND THEIR USE
NUMBER OF SEQUENCES: 42
ADDRESSEE: CUSHMAN, DARBY & CUSHMAN
                                                                                                                                                                               Length 23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 23;
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COMPUTER: IBM PC compatible
OPERATE: SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                         Score 137; DB 4;
Pred. No. 4.72e-09;
0; Mismatches 0
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Best Local Similarity 100.0%; Pred. No. 4.72e-09;
                                                                                                                                                                                                                                                                                                                                                        23 AA
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                                                                                                                                                                                                                                                                                                                                                          PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 3, Application US/07828450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence 3, Application US/07828450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: SCOTT, WATSON T.
REGISTRATION NUMBER: 26,581
REFERENCE/DOCKET NUMBER: 9437
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-861-3067
                                                                                                                     LENGTH: 23
SEQUENCE 25 AA; 2772 MW; 3366 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide
ENCE 23 AA; 2415 MW; 2174 CN;
                               APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
                                                                                                                                                                                                                                                                                                                                                          STANDARD;
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APPLICATION NUMBER: US
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS
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Best Local Similarity 100.0%;
Matches 17; Conservative
APPLICATION NUMBER:
FILING DATE: 08-MAY-
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GENERAL INFORMATION:
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US-07-828-450-3
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                                                                                                         SEQ ID NO:39:
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APPLICANT: KITAJIMA, YASUO
APPLICANT: FURUYA, MAYUMI
APPLICANT: MATSUO, HISAYUKI
TITLE OF INVENTION: CNP ANALOG PEPTIDES AND THEIR USE
NUMBER OF SEQUENCES: 42
CORRESPONDENCE ADDRESS: AND CHICHMAN
                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFFMARE: Patentin Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                             5: CUSHMAN, DARBY & CUSHMAN 1625 L STREET, N.W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/828,450
FILING DATE: 19920131
                                                                                                                           GENERAL INFORMATION:
APPLICANT: TANKA, SHOJI
APPLICANT: MINAMITAKE, YOSHIHARU
APPLICANT: KITAJIMA, YASUO
                                                                                          Sequence 4, Application US/07828450 Patent No. 5434133
                                                           Sequence 4, Application US/07828450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY AGENT INFORMATION:
NAME: SCOTT, WATSON T.
REGISTRATION NUMBER: 26,581
REFERENCE/DOCKET, NUMBER: 943
TELECOMMUNICATION: INFORMATION:
TELEPHONE: 202;861-3067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MOLECULE TYPE: peptide
ENCE 27 AA; 2838 MW; 3351 CN;
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity, 100.0%;
Matches 17; Conservative
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                                                                                                                                                                                                                                                                                                            CITY: WASHINGTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FILING DATE: 15
CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No. 5204327.
                                                                                                                                                                                                                                                                                                                                                           20036
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5204327-1
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APPLICANT: TARNOWSKI, JOSEPH S.;HILLIKER, SANDRA; WILLETT,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF INVENTION: EXPRESSION OF RECOMBINANT POLYPEPTIDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 27;
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                                                                                                                                                                                                APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 137; DB 4;
Pred. No. 4.72e-09;
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Pred. No. 4.72e-09;
0; Mismatches 0
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                                              27 AA
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NUMBER OF SEQUENCES: 16
CURRENT APPLICATION NUMBER: US/08/564,259
FILING DATE: 07-AUG-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29 AA
                                                                                                                                                                                                                                              NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
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                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
                                                PRT;
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Best Local Similarity 100.0%;
Matches 17; Conservative
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Local Similarity 100.0%;
les 17; Conservative
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                                                STANDARD;
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                                                                                                                                                Patent No. 5212286
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LENGTH: 25
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ID US-07-828-450-4
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                                 RESULT 9
ID 5212286-27
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ID 5202239-5
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Matches

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Gaps Patent No. 5204327 APPLICANT: KIYOTA, TAKAO; SUGAWARA, SHUICHI; HAYASHI, HIROSHI TITLE OF INVENTION: TREATMENT OF CEREBRAL EDEMA WITH ANP . Length 27; 0; Indels Mismatches 30 AA Score 137; Pred. No. 4 NUMBER OF SEQUENCES: 3 CURRENT APPLICATION DATA:

Gaps

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GENERAL INFORMATION:
APPLICANT: MATSOV HISAYUKI
TITLE OF INVENTION: PORCINE DERIVED NOVEL PHYSIOLOGICALLY
TITLE OF INVENTION: ACTIVE PEPTIDE
NUMBER OF SEQUENCES: 3
CORRESPONDENCE ADDRESS:
ADDRESSEE: CUSHMAN, DARBY & CUSHMAN
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                                                                                                                                          Length 28;
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Pred. No. 4.72e-09;
0; Mismatches 0; Indels
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MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/778,847
FILING DATE: 19921220
                                                                                                                                     Score 137; DB 4; I
Pred. No. 4.72e-09;
0; Mismatches 0;
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Patent No. §352770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLASSIFICATION: 530
ATTORNEY/ACENT INFORMATION:
NAME: SCOTT, WATSON T.
REGISTRATION NUMBER: 26,581
REFERENCE/DOCKET NUMBER: 9437
TELECOMUNICATION INFORMATION:
TELEPHONE: 202-861-3067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 1, Application US/07778847
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: peptide
JENCE 28 AA; 3018 MW; 3624 CN;
                                                                    LENGTH: 28
NCE 30 AA; 3303 MW; 4581 CN;
APPLICATION NUMBER: 100,144
FILING DATE: 28-AUG-1987
SEQ ID NO:2:
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INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 100.0%;
Matches 17; Conservative
                                                                                                                                        Query Match
100.0%;
Best Local Similarity 100.0%;
Matches 17; Conservative
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STATE: D.
COUNTRY:
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APPLICANT: Forssmann, Wolf-Georg; Gagelmann, Michael; Hock, Dieter TITLE OF INVENTION: PHOSPHORYLATED DERIVATIVES OF CARDIODILATIN/ANF PEPTIDES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
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C APPLICANT: FORSSMANN, WOLF-GEORG;ALT, JEANETTE M.;BECKER,
C ERHARD; BTERBEY: FRANZ
C TITLE OF INVENTION: CARDIODILATIN FRAGMENT, PROCESS FOR
NUMBER OF SEQUENCES: 4

C CURRENT APPLICATION DATA:
C APPLICATION NUMBER: US/08/185,240
FILING DATE: 24-JAN-1994
C FILING DATE: 16-DEC-1992
C APPLICATION NUMBER: 994,084
FILING DATE: 16-DEC-1992
C FILING DATE: 18-NOV-1991
C FILING DATE: 18-NOV-1991
C APPLICATION NUMBER: 401,401
FILING DATE: 01-SEP-1989
                                                                                                                                        Score 137; DB 4; Length 28; Pred. No. 4.72e-09;
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Pred. No. 4.72e-09;
0; Mismatches 0
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/95,049
FILING DATE: 22-JUL-1993
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 499,251
FILING DATE: 10-MAY-1990
                                                                                                                                                                                                                                                                                                                                                                             30 AA.
APPLICATION NUMBER: US/07/435,659
FILING DATE: 13-NOV-1989
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SEQUENCE 30 AA; 3303 MW; 4581 CN;
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30 AA; 3303 MW; 4581 CN;
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Best Local Similarity 100.0%;
Matches 17; Conservative
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Gaps

Search completed: Wed Jun 16 13:16:53 1999 Job time : 6 secs.

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C-type natriuretic pe		natriuretic peptide t	C-type natriuretic pe	brain natriuretic pep	natriuretic peptide C	natriuretic peptide c	natriuretic peptide C	c-type natriuretic pe	brain natriuretic pep	alpha-atrial natriure	brain natriuretic fac	type-B natriuretic pe	brain natriuretic pep	natriuretic peptide,	probable translation	elongation factor G (translation elongatio	probable fusA protein	translation elongatio	translation elongatio	hypothetical protein
B54119	AWHUB	A61244	A36399	S12988	AWHUC	A55688	A36155	A54119	A35418	S14320	A30162	A49144	I49548	A42974	C71322	B71723	S31150	E70827	S35701	543748	D65054
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118	134	135	22	126	126	126	126	129	22	140	121	121	121	38	683	669	701	701	787	819	302
75.2	75.2	75.2	73.7	73.7	73.7	73.7	73.7	73.7	73.0	73.0	65.7	62.8	62.8	57.7	51.1	47.4	47.4	47.4	46.7	45.3	44.5
103	103	103	101	101	101	101	101	101	100	100	90	98	98	79	70	9	65	65	64	62	61
24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

AWDG #type complete atrial natriuretic peptide precursor - dog ANP: atrial natriuretic polypeptide #formal_name Canis lupus familiaris.#common_name dog 31.Mar-1988 #sequence_revision 31-Mar-1988 #text_change	A25302 A90119 Oikawa, S.; Imai, M.; Inuzuka, C.; Tawaragi, Y.; Nakazato, H.; Matsuo, H. Biochem. Blophys. Res. Commun. (1985) 132:892-899 Structure of dog and rabbit precursors of atrial natriuretic polypeptides deduced from nucleotide sequence of cloned	#cross-references WUID:86076957 #accession	#domain signal sequence #status predicted #label SIG\ #product gamma atrial natriuretic factor #status predicted #label ANE\ #product alpha atrial natriuretic peptide #status predicted #label ANE\ #disulfide_bonds #status predicted #length 149 #molecular-weight 15819 #checksum 8040	y Match 100.0%; Score 137; DB 1; Length 149; Local Similarity 100.0%; Pred. No. 4.27e-18; hes 17; Conservative 0; Mismatches 0; Indels 0; Gaps 0; 128 CFGGRMDRIGAQSGLGC 144	\$13107 #type complete atrial natriuretic peptide precursor - pig alpha atrial natriuretic peptide; gamma atrial natriuretic factor (cardiodilatin) #formal_name Sus scrofa domestica #common_name domestic pig 21-Nov-1993 #sequence_revision 14-Jul-1994 #text_change
RESULT 1 ENTRY TITLE ALTERNATE_NAMES ORGANISM DATE	ACCESSIONS REFERENCE #authors #journal #title	#cross-refere #accession ##molecule, #residues CLASSIFICATION	1-23 1-23 24-149 122-149 128-144 SUMMARY	Query Match Best Local Sin Matches 17, Matches 17, Db 128 CFGGRN Qy 1 CFGGRN	RESULT 2 ENTRY TITLE CONTAINS ORGANISM DATE

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##molecule_type mRNA
##residues 1-151
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##residues 1-7
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natriuretic peptide A precursor - human
ANF; atrial natriuretic factor; atrial natriuretic protein;
prepronatriodilatin (PND)
atrial alpha natriuretic peptide (ANP); cardiodilatin (atrial
agamma natriuretic peptide (ANP); cardiodilatin (atrial
gamma natriuretic factor)
formal_name Homo sapiens #common_name man
15-Nov-1984 #sequence_revision 15-Nov-1984 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Nemer, M.; Chamberland, M.; Sirois, D.; Argentin, S.; Drouin, J.; Dixon, R.A.F.; Zivin, R.A.; Condra, J.H.
Nature (1984) 312:654-656
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                                                     #authors Maegert, H.J.; Appelhans, H.; Gassen, H.G.; Forssmann, W.G. #journal Nucleic Acids Res. (1990) 18:6704
#title Nucleotide sequence of a porcine prepro atrial natriuretic peptide (ANP) cDNA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #domain signal sequence #status predicted #label SIG\
#product gamma atrial natriuretic factor #status
predicted #label ANF\
#product alpha atrial natriuretic peptide #status
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allelic variant with UGA termination codon replaced
CGA arginine codon
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Oikawa, S.; Imai, M.; Ueno, A.; Tanaka, S.; Noguchi, T.;
Nakazato, H.; Kangawa, K.; Fukuda, A.; Matsuo, H.
                                                                                                                                                                                                                                                     Forssmann, W.G.; Hock, D.; Lottspeich, A.; Henschen, A.; Kreye, V.; Christmann, M.; Reinecke, M.; Metz, J.; Carlquist, M.; Mutt, V.
Anat. Embryol. (1983) 168:307-313
The right auricle of the heart is an endocrine organ.
Cardiodilatin as a peptide hormone candidate.
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I39458; I39459; I39460; I37167
                                                                                                                                                                                                                                                                                                                                                                                                                       ##molecule_type protein
##residues 25-54 ##label FOR
FFICATION #superfamily natriuretic peptide A precursor
ADS atrium; diuretic; hormone; natriuretic; osmoregulation
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#disulfide_bonds #status predicted
#length 150 #molecular-weight 16351 #checksum
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##cross-references GB:X01470; NID:g28687; PID:g825625
                                                                                                                                                                                     ##molecule_type mRNA
##residues 1-150 ##label MAE
##cross-references EMBL:X54669; NID:91883; PID:91884
:NCE A60899
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Pred. No. 4.27e-18;
0; Mismatches 0;
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20-Mar-1998
S13107; A60899
S13107
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Best Local Similarity 100.0%;
Matches 17; Conservative
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#authors Kangawa, K.; Matsuo, H.
#journal Biochem. Blophys. Res. Commun. (1984) 118:131-139
#title Purification and complete amino acid sequence of alpha-human
atrial natriuretic polypeptide (alpha-hANP).
#cross-references MUID:84128019
#accession A32733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nakayama, K.; Ohkubo, H.; Hirose, T.; Inayama, S.; Nakanishi
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#journal Blochem. Blophys. Res. Commun. (1984) 125:797-802
#title Cloning of genomic DNA for human atrial natriuretic factor.
#cross_references_MUID:85096983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                mRNA sequence for human cardiodilatin-atrial natriuretic factor precursor and regulation of precursor mRNA in rat
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#journal Eur. J. Biochem. (1991) 196:281-286
#title Hydrolysis of intact and Cys-Phe-cleaved human atrial
natriuretic peptide in vitro by human tissue kallikrein.
#cross-references MUID:51176998
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#journal Science (1984) 226.1206-1209
#fitle Nucleotide sequences of the human and mouse atrial naturatic factor genes.
#cross_references_Muid:85065766
                                                                of cDNA encoding a
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##cross-references GE:M30262; NID:g180181; PID:g180182
NCE S14097
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##cross-references GB:KO2044; NID:9178631; PID:9178632
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##residues 1-151 ##label OIK
#erross-references GB:K02043; NID:g178629; PID:g178630
#RCE A29370
#journal Nature (1984) 309:724-726
#title Cloning and sequence analysis of CDNA encocfor human atrial natriuretic polypeptide.
#cross_references MUID:84219799
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##residues 1-64,'D',66-151 ##label SEI
##cross-references GB:K02043
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#accession I58054
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                                        Seidman, C.E.; Bloch, K.D.; Zisfein, J.; Smit, J.; Haber, E.; Homcy, C.J.; Duby, A.D.; Choi, E.; Graham, R.M.; Seidman,
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experimental #label ANP\
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#length 151 #molecular-weight 16395 #checksum 3644
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Life Sci. (1986) 38:1309-1315
Purification and sequence determination of bovine atrial
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#journal Biochem. Biophys. Res. Commun. (1986) 136:396-403
#title Structure and analysis of the bovine atrial natriuretic peptide precursor gene.
#cross-references WUD:86215205
                                                                                               Hypertension (1985) 7:31-34
Molecular studies of the atrial natriuretic factor gene
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Journal Nature (1984) 312:656-658

#title Nuclectide sequence of the gene encoding human atrial natriuretic factor precursor.
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##cross-references EMBL:X01471; NID:g28690
T Cardiodilantin is a vasoconstrictor but not a diuretic
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##residues 1-152 ##label VLA
##cross.references GB:M13145; NID:9162666
##cross-references GB:K02399; NID:g178633; PID:g178634
NCE I39460
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High level expression of alpha-human atrial natriuretic factor as a fusion polypeptide with phage fr coat protein in Escherichia coli.
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Pred. No. 4.27e-18;
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Pred. No. 4.27e-18;
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Homo sapiens (man) and
#cross-references MUID:86173941
#accession A93049
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #domain signal sequence #status predicted #label SIG\
#product atrial natriuretic peptide #status predicted
#label MAT\
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ANF(1-33); ANF(2-33); ANF(8-33); ANF(8-33); atrial
natriuretic peptide; atriopeptin I; atriopeptin II;
auriculin A; auriculin B; preprocardionatrin
#formal_name Rattus norvegicus #common_name Norway rat
19-Feb-1984 #sequence_revision 15-Nov-1984 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Yamanaka, M.; Greenberg, B.; Johnson, L.; Seilhamer, J.;
                                                                                                                                                                                                              Gaps
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A20973; A44190; A60390; I59094; I58057; I52678
A22570
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ##cross-references EMBL:X58562; NID:q49543; PID:q49544
##experimental_source heart atria; adult
#FICATION #superfamily natriuretic peptide A precursor
DS atrium; diuretic; hormone; natriuretic; osmoregulation
DS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Maegert, H.J.; Hanke, M.; Schmeding, G.; Teuteberg, Schulz-Knappe, P.; Forssmann, W.G. submitted to the EMBL Data Library, March 1991
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                                                                    ##residues__1. 1-161 ##label RES
##cross-references GB:S6567; NID:9435742; PID:9435743
DS fusion protein
Y #length 161 #molecular-weight 17287 #checksum
Length 128;
                                                                                                                                                                       Length 161;
                                                                                                                                                    Score 137; DB 4; Length los
Pred. No. 4.27e-18;
....matches 0; Indels
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##cross-references GB:K02062; NID:g202899; PID:g202900
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#length 128 #checksum 8741
                                                                                                                                                                                                                                                                                                                                                                    *type fragment
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                                                                                                                                                                     Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 95.6%;
Best Local Similarity 94.1%;
Matches 16; Conservative
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                                                                                                                                                                                                                                                   140 CFGGRMDRIGACISGLGC 156
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SUMMARY
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TITLE
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#authors Atlas, S.A.; Kleinert, H.D.; Camargo, M.J.; Januszewicz, A.; Sealey, J.E.; Laragh, J.H.; Schilling, J.W.; Lewicki, J.A.; Johnson, L.K.; Maack, T.
#journal Nature (1984) 309:717-719
#title vascaction, sequencing and synthesis of natriuretic and vascactive rat atrial peptide.
#cross-references MID:84219796
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                                                                                                                                                                                                                                                                                                                                                                                                                               Structure of rat atrial natriuretic factor precursor deduced
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# journal Science (1984) 223:67-69
# title Purification and sequence analysis of bloactive atrial peptides (atriopeptins).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    #authors Seidman, C.E.; Duby, A.D.; Choi, E.; Graham, R.M.; Haber,
Homcy, C.; Smith, J.A.; Seidman, J.G.
#journal Science (1984) 225:324-326
#title The structure of rat preproatrial natriuretic factor as defined by a complementary DNA clone.
#cross-references MUID:84250178
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ##residues 1-152 ##label MAK
##cross-references GB:X00665; EMBL:X00658; NID:955711; PID:955712
NICE A43617
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##cross-references GB:K02062; GB:K02063; NID:g202899; PID:g202900
REFERENCE A93330
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Amino acid sequence of homologous rat atrial peptides:
natriure:ic activity of native and synthetic forms.
                                                                                                                                                                                                                                                                                                                                  Maki, M.; Takayanagi, R.; Misono, K.S.; Pandey, K.N.; Tibbetts, C.; Inagami, T.
Nature (1984) 309:722-724
Atlas, S.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NH2-terminal fragment of rat pro-atrial natriuretic
the circulation: identification, radioimmunoassay
                                                                                          cDNA for the
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##residues . 25-28.'X',30-31,'X',33,'X',35-38 ##label THI
                                                                                                                                                                                                                           ##residues 1-152 ##label YAM
##cross-references EMBL:X00665; NID:955711; PID:955712
NCE A93332
Brewer, M.; Friedemann, T.; Miller, J.;
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Lazure, C.; Chretien, M.; Cantin, M.
Peptides (1988) 9:47-53
                                                                                          the
                         #journal Nature (1984) 309:719-722
#title Cloning and sequence analysis of natururetic factor precursor.
#cross-references MUID:84219797
#accession A01425
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##residues 126-149 ##label ATL
NCE A94275
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#cross-references MUID:84219798
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##residues 1-152 ##label rl.
##cross-references GB:K02062; NID:g202899; PID:g202900
##cross-references GB:K02062; NID:g202899; PID:g202900
##note part of this sequence, including the amino ends of three mature peptides, was confirmed by protein sequencing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       #authors Gardner, D.G.; vlasuk, G.P.; Baxter, J.D.; Fiddes, J.C.;
Lewicki, J.A.
#journal Proc. Natl. Acad. Sci. U.S.A. (1987) 84:2175-2179
#title Identification of atrial natriuretic factor gene transcripts
in the central nervous system of the rat.
#cross-references MUID:87175636
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                                                                                           A44190 Flynn, T.G.; Davies, P.L.; Kennedy, B.P.; de Bold, M.L.; de Bold, A.J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nature (1984) 312:152-155
Identification of rat gamma atrial natriuretic polypeptide and characterization of the cDNA encoding its precursor.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       #domain signal sequence #status predicted #label SIG\
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Belcourt, D.; Varma, D.R.; Toney, K.; Bennett, H.P.J.
Potein Expr. Purif. (1990) 1:28-32
Purification of rat pro-atrial natriurelic factor: a
simplified scheme using reversed-phase high-performance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Kangawa, K.; Tawaragi, Y.; Oikawa, S.; Mizuno, A.;
Sakuragawa, Y.; Nakazato, H.; Fukuda, A.; Minamino, N.;
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#superfamily natriuretic peptide A precursor
atrium; diuretic; hormone; natriuretic; osmoregulation
                                                                                                                                                                                                                              DNA
                                                                                                                                                                    #journal Science (1985) 228:323-325
#ittle Alignment of rat cardionatrin sequences with the preprocardionatrin sequence from complementary across-references MUID:85168263
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##molecule_type mRNA
##residues
##residues
##cross-references GB:MIS868; NID:g202903; PID:g202904
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                                            ##molecule_type protein
##residues 118-150 ##label SE2
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##residues 1-152 ##label FLY
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159094
across-references MUID:84194062
accession A20973
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1-24
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*product ANF(1-33) *status experimental *label ANF1\
*product ANF(2-33) *status experimental *label ANF2\
*product ANF(2-33) *status experimental *label ANF3\
*product Cardionatrin 1 *status experimental *label CNI\
*product ANF(8-33) *status experimental *label ANF4\
*product ANF(8-33) *status experimental *label ANF4\
*product auriculin B *status experimental *label AUB\
*product auriculin A *status experimental *label AUB\
*product auriculin A *status experimental *label AUB\
*product atrial natriuretic factor *status predicted
                                                                                                                                                                                                                                                                                                                            #product atriopeptin I #status experimental #label ATI\
#product atriopeptin II #status experimental #label AT2\
#stalfide_bonds #status experimental
#length 152 #molecular-weight 16556 #checksum 7818
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#product pro-atrial natriuretic factor #status
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#product cardionatrin IV #status experimental #label
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#formal_name Mus musculus #common_name house mouse
31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
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atrium; diuretic; hormone; natriuretic; osmoregulation
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #authors Seidman, C.E.; Bloch, K.D.; Klein, K.A.; Smith, J.A.; Seidman, J.G. Seidman, J.G. Science (1984) 226:1206-1209
#title Nucleotide sequences of the human and mouse atrial natriurelic factor genes.
#cross-references MUID:85065766
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predicted *labal ANP\
*product alpha atrial natriuretic peptide *status
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#length 152 #molecular-weight 16645 #checksum
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##cross-references GB:K02781; NID:g191937; PID:g387099
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ANP; atrial natriuretic polypeptide
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Best Local Similarity 94.1%;
Matches 16; Conservative
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#journal #title

#authors

ACCESSIONS REFERENCE

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natriuretic peptide-24
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#domain propeptide #status predicted #label PRO\
#product atrial natriuretic peptide-24 #status
experimental #label M24\
#product atrial natriuretic peptide-21 #status
experimental #label M21\
#storimental #label M21\
#disulfide_bonds #status predicted
#lasel H24 #checksum 1892
                                                                                                                                                                                                                                                                                     Sakata, J.; Kangawa, K.; Matsuo, H.
Biochem. Biophys. Res. Commun. (1988) 155:1338-1345
Identification of new atrial natriuretic peptides in frog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ventricular *type complete ventricular natriuretic peptide - Japanese eel *formal_name Anguilla japonica *common_name Japanese eel 04-Dec-1992 *sequence_revision 04-Dec-1992 *text_change 09-Dec-1994
ANP; atrial natriuretic factor (ANF)
atrial natriuretic peptide-21; atrial natriuretic peptid
#formal_name Rana catesbelana #common_name bullfrog
:30-Sep-1991_#sequence_revision 30-Sep-1991 #text_change
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Sakakibara, S.
FBS Lett. (1991) 282:317-320
A novel natriuretic peptide isolated from eel cardiac
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            *superfamily natriuretic peptide A precursor atrium; diuretic; hormone; natriuretic; osmoregulation
                                                                                                                                                                                                                                                                                                                                                                                                                   ##molecule_type protein
##residues 122-145 ##label SAK
## In mammals, several active peptides may be derived from the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 118; DB 2; Length 145;
Pred. No. 2.82e-13;
3; Mismatches 0; Indels
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Pred. No. 8.56e-12;
1; Mismatches 2; Indels
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#length 36 #molecular-weight 3941 #checksu
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submitted to JIPID, May 1991
JQ0947
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##residues 1-36 ##label FEB
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#accession S15821
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#accession A31510
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Best Local Similarity 82.4%;
Matches 14; Conservative
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Best Local Similarity 82.4%;
Matches 14; Conservative
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                                                                                                                                                           H.; Matsuo, H.
Biochem. Blochys. Res. Commun. (1985) 132:892-899
Structure of dog and rabbit precursors of atrial natriuretic
polypeptides deduced from nucleotide sequence of cloned
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Olkawa, S.; Imai, M.; Inuzuka, C.; Tawaragi, Y.; Nakazato,
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FEBS Lett. (1988) 238:300-306
The amino acid sequences of frog heart atrial
natriuretic-like peptide and mammalian ANF are closely
         #formal_name Oryctolagus cuniculus #common_name domestic
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#formal_name Rana ridibunda #common_name laughing frog
01-Dec-1989 #sequence_revision 01-Dec-1989 #text_change
09-Dec-1994
S01657; A30977
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                                                31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
                                                                                                                                                                                                                                                                                     ##molecule_type mRNA
##residues 1-153 ##label OIK
##cross-references GB:M12046; NID:g164770; PID:g164771
CLASSIFICATION #superfamily natriuretic peptide A precursor
KEYWORDS atrium; diuretic; hormone; natriuretic; osmoregulation
FEATURE
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Pred. No. 8.63e-16;
1; Mismatches 0; Indels
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Pred. No. 2.82e-13;
3; Mismatches 0;
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##residues 1-30 ##label LAZ
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#cross-references MUID:89005705
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#accession B25302
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Best Local Similarity 94.1%;
Matches 16; Conservative
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Best Local Similarity 82.4%;
Matches 14; Conservative
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ALTERNATE_NAMES ORGANISM

RESULT ENTRY

130-146 124-151

SUMMARY

26-151

#authors

ACCESSIONS

REFERENCE

#journal

#title

CLASSIFICATION SUMMARY

RESULT ENTRY

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Gaps

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#formal_name Sus scrofa domestica #common_name domestic pig
27-Aug-1995 #sequence_revision 19-Oct-1995 #text_change
16-Feb-1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D....
The translation of the start codon ATG is not given in
this paper
                                                                                                                                                                                                                                                                                                                     #authors Takei, Y.; Takahashi, A.; Watanabe, T.X.; Nakajima, K.; Sakakibara, S. Sakakibara, S. Bochem. Biopher. Biochem. Biochem.
A33431 #type complete
atrial natriuretic factor - Japanese eel
#formal_name Anguilla japonica #common_name Japanese eel
27-Feb-1990 #sequence_revision 27-Feb-1990 #text_change
09-Dec-1994
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#length 27 #molecular-weight 2792 #checksum 8900
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Pred. No. 2.64e-11;
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##molecule_type protein 1-27 ##label TAK 1-27 ##retinget
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Best Local Similarity 76.5%;
Matches 13; Conservative
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Best Local Similarity 76.5%;
Matches 13; Conservative
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##residues 1-27
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CLASSIFICATION
SUMMARY
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#gene
CLASSIFICATION
KEYWORDS
SUMMARY
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NATRIURETIC PEPTIDE (D ELONGATION FACTOR G. I ELONGATION FACTOR G (E ELONGATION FACTOR G (E ELONGATION FACTOR G (E ELONGATION FACTOR G (E PHYTOCHROME A1.

ANFC_HUMAN
ANFC_BOVIN
ANFC_BOVIN
ANFC_RAT
ANFC_ANGJA
ANFC_ANGJA
ANF_CHICK
ANFB RAT
ANFB_CHICK
ANFB_CHICK
ANFB_CHICK
ANFB_CHICK
EFG_ANCLE
EFG_MYCLE

ELONGATION FACTOR G, M HYPOTHETICAL 30.8 KD P HYPOTHETICAL 46.5 KD P ELONGATION FACTOR G (E

PROTO-ONCOGENE

C-TYPE NATRIURETIC PEP
A-TRIAL NATRIURETIC PEP
A-TRIAL NATRIURETIC PEP
A-TRIAL NATRIURETIC PEP
BRAIN NATRIURETIC PEP
BRAIN NATRIURETIC PEP
BRAIN NATRIURETIC PEP

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	. . .	Searched: 77977 segs, 28268293 residues	Post-processing: Minimum Match 0% Listing first 45 summaries	Database: swiss-prot37 l:swissprot	Statistics: Mean 28.233; Variance 33.694; scale 0.838	Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ ö - APR-1988 (REL. 07, CREATED) 1-APR-1988 (REL. 07, LAST SEQUENCE UPDATE) 1-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE) 1-RIAL NATRIERTIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE) MEDLINE; 86076557.

MEDLINE; 86076557.

OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO H.;

OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO H.;

OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO H.;

POLYPEPTIGE of dog and rabbit precursors of arrial natriuretic polypeptides deduced from nucleotide sequence of cloned cDNA.";

BIOCHEM, BIOPHYS. RES. COMMUN. 132:892-899(1985).

-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALLAN AND IS THOUGHT TO PLAY A KEY ROLLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP) Gaps A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY. KARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALLA; EUTHERIA; RNIVORA; FISSIPEDIA; CANIDAE; CANIS. Length 149 149 AA; 15819 MW; D4F3A6CF CRC32; Æ PIR; A25302; AWDG.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PEM: PF00212; ANP; 1.
VASCACTIVE; SICNAL.
SIGNAL. entities requires a license agreement (Se or send an email to license@lsb-sib.ch). ALIGNMENTS PRT; NP) (PREPRONATRIODILATIN). EMBL; M12045; G163901; NIS FAMILIARIS (DOG) CANFA PEPTIDE DISULFID SEQUENCE

. 24e-21 . 24e-21 . 24e-21 . 24e-21 . 24e-21 . 24e-21 . 05e-19 . 98e-18 . 98e-18 . 10e-15

Description

DB

Query Match

Score

SUMMARIES

ATRIAL NATRIURETIC FAC
VEWTICULAR NATRIURETIC PEPT
C-TYPE NATRIURETIC PEPT
C-TYPE NATRIURETIC PEPT
BRAIN NATRIURETIC PEPT
C-TYPE NATRIURETIC PEPT

ANF_PIG
ANF_PIG
ANF_PIG
ANF_PIG
ANF_PIG
ANF_BOSE
ANF_HORSE
ANF_CAVPO
ANF_MOSE
ANF_RAT
ANF_RAT
ANF_RANE
ANF_ROJA

ö 0; Indels Score 137; DB 1; Pred. No. 7.24e-21; 0; Mismatches 0 Query Match
Best Local Similarity 100.0%;
Matches 17; Conservative 152 AA

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STANDARD;
                                                                                                                                                                                                                                                  SEQUENCE OF 123-150.
                                                                                                                                                           SEQUENCE FROM N.A. MEDLINE; 86215205.
                                                                                                                                                                                                              precursor gene."
       ANF_BOVIN
P07501;
01-APR-1988 (
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DISULFID
SEQUENCE
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                                                                                                               01-MAR-1992 (REL. 21, CREATED)
01-MAR-1992 (REL. 21, LAST SEQUENCE UPDATE)
01-CCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL MATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN)
                                                                                                                                                                                                                                                                                                                                        SEQUENCE OF 25-150.
TISSUE-HEART RIGHT ATRIUM;
MEDLINE; 85124561.
FORSSMANN W.G., BIRR C., CARLOUIST M., CHRISTWANN M., FINKE R.,
HENSCHEN A., HOCK D., KIRCHHEIM H., KREYE V., LOTISPEICH F., METZ J.,
MUTT V., REINECKE M.,
"The auxicular myocardiocytes of the heart constitute an endocrine organ. Characterization of a porcine cardiac peptide hormone,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (BY SIMILARITY).
ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                            cardiodilatin-126.";
CELL TISSUE RES. 238:425-430(1984).
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTRANCE SYNTHESIZED IN WAMMALLAN ATRIA AND IS THOUGHT TO PLAY A
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
TISSUE-HEART RIGHT ATRIUM;
MEDIINE; 9106-7478
MAEGERT H.J., APPELHANS H., GASSEN H.G., FORSSMANN W.G.;
"Nucleotide sequence of a porcine prepro atrial natriuretic peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
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                                                                                                                                                                                       SUS SCROFA (PIG).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 137; DB 1; Length 150;
Pred. No. 7.24e-21;
0; Mismatches 0; Indels
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                                                                                         150 AA
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PROSITE: PS00263: NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212; ANP: 1.
VASOACTIVE: SIGNAL.
SIGNAL
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NUCLEIC ACIDS RES. 18:6704-6704(1990)
                                                                                         PRT;
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Best Local Similarity 100.0%;
Matches 17; Conservative
              128 CFGGRMDRIGAQSGLGC 144
                           1 CFGGRMDRIGAQSGLGC 17
                                                                                         STANDARD;
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DISULFID
SEQUENCE
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ANF_PIG
P24259;
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129 CFGGRMDRIGACSGLGC 145

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1 CFGGRMDRIGAGSGLGC 17

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15.3 AA.
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15.1 AA.
15.1 AA.
15.1 AA.
17.1 AB.
17.2 AB.
17.3 AG.
17.3 AG.
17.3 AG.
17.4 AB.
17.5 AB
                                    01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            "purification and sequence determination of bovine atrial natriuretic factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LIFE SCI. 38:1309-1315(1986).
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE; 86173941.
ONG H., MCNICOLL N., LAZURE C., SEIDAH N., CHRETIEN M., CANTIN M.,
DE LEAN A.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VLASUK G.P., MILLER J., BENCEN G.H., LEWICKI J.A.; "Structure and analysis of the bovine atrial natriuretic peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ö
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PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
                                                                                                                                                                                                                                                                                                     BOS TAURUS (BOVINE).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; BOVINAE;
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Score 137; DB 1; Lenyu...
No. 7.24e-21;
Indels
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152 AA; 16518 MW; CF200882 CRC32;
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PROSITE: PSO0263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
VASOACTIVE; SIGNAL.
(REL. 07, CREATED)
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NPPA OR PND.
HOMO SAPIENS (HUMAN).
                                                                                                                                                                                              (ANP) (PREPRONATRIODILATIN).
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Matches 17; Conservative
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                                             OIKAMA S., IMAI M., UENO A., TANAKA S., NOGUCHI T., NAKAZATO H., KANGAWA K., FUKUDA A., MATSUO H.;
"Cloning and sequence analysis of cDNA encoding a precursor for human atrial natriure polypeptide.";
NATURE 309:724-726 (1984)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ZIVIN R.A., CONDRA J.H., DIXON R.A.F., SEIDAH N.G., CHRETIEN M., NEMER M., CHANBERLAND M., DROUIN J.;
"Molecular cloning and characterization of DNA sequences encoding rat and human atrial natriurelic factors.";
PROC. NATL. ACAD. SCI. U.S.A. 81:6325-6329(1984).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KANCAWA K., MATSUO H.; "Purification and complete amino acid sequence of alpha-human atrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Nucleotide sequence of the gene encoding human atrial natriuretic
                                                                                                                                                                       MEDLINE; 84295577.
NAKAYAMA K., OHKUBO H., HIROSE T., INAYAMA S., NAKANISHI S.;
"MRNA sequence for human cardiodilatin-atrial natriuretic factor
precursor and regulation of precursor mRNA in rat atria.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE; 94318633.
FAIRBROTHER W.J., MCDOWELL R.S., CUNNINGHAM B.C.;
Solution conformation of an atrial natriuretic peptide variant
selective for the type A receptor.";
BIOCHEMISTRY 33:8897-8904(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STRUCTURE BY NMR OF 124-151 MUTANT SELECTIVE FOR NPR-C RECEPTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEIDMAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDMAN J.G., "Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MAKI M., PARMENTIER M., INAGAMI T.; "Cloning of genomic DNA for human atrial natriuretic factor."; BIOCHEM. BIOPHYS. RES. COMMUN. 125:797-802(1984).
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                                                                                                                                                                                                                                                                                                               NEMER M., CHAMBERLAND M., SIROIS D., ARGENTIN S., DROUIN DIXON R.A.F., ZIVIN R.A., CONDRA J.H.; "Gene structure of human cardiac hormone precursor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBMITTED (MAY-1998) TO EMBL/GENBANK/DDBJ DATA BANKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            natriuretic polypeptide (alphā-hANP).";
BIOCHEM. BIOPHYS. RES. COMMUN. 118:131-139(1984).
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                SEQUENCE OF 1-151 FROM N.A.
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NATURE 312:654-656(1984).
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NATURE 312:656-658(1984).
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                                                                                                                                                                                                                                                                                                  MEDLINE; 85061626.
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KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING

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01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC.PEPTIDE)
THE HOMAN GENOME CONTAINS 2 DIFFERENT PREPRONATRIODILATIN GENES ONE CODES, FOR 2 ARG RESIDUES AT THE C-TERMINUS THAT ARE CLEAVED TO FORM THE MATURE PEPTIDE, WHILE THE OTHER ENDS IN A TERMINATION CODON IMMEDIATELY AFTER THE LAST CODON OF THE MATURE PEPTIDE. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
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TRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILAND MISSING (IN ONE OF THE TWO GENES).
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PERISSODACTXLA; EQUIDAE; EQUUS.
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3D-STRUCTURE.
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, X02558; G825625; JOINED.

, X02043; G178630; ...

, X01471; E27452; ALT_SEQ.

, X02044; G178632; ...

, ALO21155; E1294859; ...
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Matches 17: Concern
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ANF_HORSE
P27104;
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EMBL; M3(
EMBL; K02
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PEPTIDE
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105 CFGGRMDRIGAQSSLGC 121

1 CFGGRMDRIGAQSGLGC 17

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or send an email to license@isb-sib.ch).
the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial
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01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)
01-AUG-1994 (REL. 34, LAST SEQUENCE UPDATE)
01-CCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
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ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                        POTENTIAL.
ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
; FESDSF4A CRC32;
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MAEGERT H.J., HANKE M., SCHMEDING G., TEUTEBERG K.,
MAEGERT H.J., HANKE M., SCHMEDING G., TEUTEBERG K.,
SCHULZ-KARPPE P., FORSSMANN W.G.;
SCHULZ-KARPPE P., FORSSMANN W.G.;
SUBMITTED (MAR-1991) TO EMBL/GENBANK/DDBJ DATA BANKS.
-!- FUNCTION: ATRIAL NATRIUGETIC FACTOR (AND: JS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN MAMMALIAN AFRIA AND IS THOUGHT TO PLAY A
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
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-:- A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
-:- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
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EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 128,
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Pred. No. 7.24e-21;
......thes 0; Indels
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Pred. No. 4.05e-19;
1; Mismatches 0;
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PROSITE: PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                    PIR; S14873; S14873.
PROSITE: PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212; ANP; 1.
VASOACTIVE: SIGNAL.
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Best Local Similarity 94.1%;
Matches 16; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match
Best Local Similarity 100.0%;
Matches 17; Conservative
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                                                                                                                                                                                       EMBL; X58563; G1009; -.
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153 AA;
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ANF_CAVPO
P27596;
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SEQUENCE
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(ANP) (PREPRONATRIODILATIN) (CONTAINS: AURICULINS; ATRIOPEPTINS)
                                             13-AUG-1987 (REL. 05, CREATED)
13-AUG-1987 (REL. 05, LAST SEQUENCE UPDATE)
01-0CT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACÇOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILÀTIN).
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                                                                                                                                                                                                                                          SEIDWAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDWAN J.G.;
"Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ö
                                                                                                                                            MUS MUSCULUS (MOUSE).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AURICULIN A (BY SIMILARITY).
AURICULIN B (BY SIMILARITY).
ATRIOPEPTIN I (BY SIMILARITY).
ATRIOPEPTIN II (BY SIMILARITY).
BY SIMILARITY.
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Pred. No. 2.98e-18;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Mismatches
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PFAM; PF00212; ANP; 1.
                PRT;
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94.1%;
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SCIENCE 226:1206-1209(1984)
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RATTUS NORVEGICUS (RAT).
                STANDARD;
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126
127
127
129
152 AA;
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NPPA OR PND
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DISULFID
SEQUENCE
                ANF_MOUSE
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LARAGH J.H., SCHILLING J.W., LEWICKI J.A., JOHNSON L.K., MAACK T.;
"PURIfication, sequencing and synthesis of natriuretic and vasoactive
rat atrial peptide.";
NATURE 309:717-719(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ZITIN F.A., CONDRA J.H., DIXON R.A.F., SEIDAH N.G., CHRETIEN M., NEMER M., CHAMBERLAND M., DROUIN J.; "Molecular cloning and characterization of DNA sequences encoding rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              The elucidation of the structure of atrial natriuretic factor, a new peptide hormone.":
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE; 87175636.
GARDNER D.G., VLASUK G.P., BAXTER J.D., FIDDES J.C., LEWICKI J.A.;
"Identification of atrial natriuretic factor gene transcripts in the
central nervous system of the rat.";
PROC. NATL. ACAD. SCI. U.S.A. 84:2175-2179(1987).
                                                                                                                                                                                                                                           MEDLINE: 84250178.
SEIDMAN C.E., DUBY A.D., CHOI E., GRAHAM R.M., HABER E., HOMCY C., SIIDMAN G.E., DUBY A.D., SEIDMAN J.G., The structure of rat preproatrial natriuretic factor as defined by complementary DNA clone."; SCIENCE 225:324-326(1984).
                                                                                                                                                                                     Structure of rat atrial natriuretic factor precursor deduced from
                                                        YAMANAKA M., GREENBERG B., JOHNSON L., SEILHAMER J.J., BREWER M., FRIEDEMANN T., MILLER J., ATLAS S.A., LARAGH J., LEWICKI J.,
                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
MEDLINE: 85061500.
KANGAWA K., TAMARAGI Y., OIKAWA S., MIZUNO A., SAKURAGAWA Y.,
NAKAZATO H., FUKUDA A., MINAMINO N., MATSUO H.;
"Identification of rat gamma atrial natriuretic polypeptide and
characterization of the cDNA encoding its precursor.";
                                                                                                                                                        MAKI M., TAKAYANAGI R., MISONO K.S., PANDEY K.N., TIBBETTS C.,
INAGAMI T.:
                                                                                        "Cloning and sequence analysis of the cDNA for the rat atrial natriuretic factor precursor.";
NATURE 309:719-722(1984).
MAMMALIA; EUTHERIA;
RATTUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                            B.P.,
                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
MEDILIN; 85182558.
ARGENTIN; 85, NEMER M., DROUIN J., SCOTT G.K., KENNEDY
DAVIES P.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and human atrial natriuretic factors.";
PROC. NATL. ACAD. SCI. U.S.A. 81:6325-6329(1984).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AN. J. PHYSIOL. PHARMACOL. 65:2013-2020(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                The gene for rat atrial natriuretic factor.";
J. BIOL. CHEM. 260:4568-4571(1985).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE;
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                                                                                                                                                                                                          NATURE 309:722-724(1984).
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84219797.
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SEQUENCE FROM N.A.
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                                                                                                                                                                                                                 MEDLINE: 84194062.
SEIDAH N.G., LAZURE C., CHRETIEN M., THIBAULT G., GARCIA R.,
SEIDAH N.G., LAZURE C., NUTT R.F., BRADY S.F., LYLE T.A., PALEVEDA W.J.,
COLTON C.D., CICCARONE T.M., VEBER D.F.;
"Amino acid 'sequence of homologous rat atrial peptides: natriuretic
activity of native and synthetic forms.";
PROC. NATL. ACAD. SCI. U.S.A. 81:2640-2644(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "NH2-terminal fragment of rat pro-atrial natriuretic factor in the circulation: identification, radioimmunoassay and half-life."; PEPPIDES 9:47-53(1988).
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
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                                            CURRIE M.G., GELLER D.M., COLE B.R., SIEGEL N.R., FOK K.F., ADAMS S.P., EUBANKS S.R., GALLUPPI G.R., NEEDLEMAN P.: "Purification and sequence analysis of bioactive atrial peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE; 88203350.
THIBAULT G., MURTHY K.K., GUTKOWSKA J., SEIDAH N.G., LAZURE C.,
CHRETIEN M., CANTIN M.;
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Pred. No. 2.98e-18;
1; Mismatches 0;
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AURICULIN B.
ATRIOPEPTIN I.
ATRIOPEPTIN II.
ATRIOPEPTIN III.
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07, LAST SEQUENCE UPDATE)
34, LAST ANNOTATION UPDATE)
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PFAM; PF00212; ANP; 1.
SEQUENCE OF 127-149, AND SYNTHESIS. MEDLINE; 84097513.
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Conservative
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SCIENCE 223:67-69(1984).
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149
150
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nes 16; Conser
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(REL.
(REL.
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PIR; A22570; AWRT
PIR; A44190; A441
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01-APR-1988 (
01-OCT-1996 (
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P07500;
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DISULFID
SEQUENCE
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Matches
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Gaps

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Length 30; 0; Indels

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                                                                                                                                                                                                                                                                                                                                           01-NOV-1990 (REL. 16, CREATED)
01-NAR-1992 (REL. 21, LAST SEQUENCE UPDATE)
01-FEB-1995 (REL. 31, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                       RANA CATESBEIANA (BULL, FROG).
EUKRAYOTA, METAZOA; CHORDATA; VERTEBRATA: AMPHIBIA; BATRACHIA: ANURA;
NEOBATRACHIA; RANOIDEA; RANIDAE; RANINAE; RANA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SARATA J., KANGAWA K., MATSUO H.;
"Identification of new atrial natriuretic peptides in frog heart.";
BIOCHEM. BLOPHYS. RES. COMMUN. 155:1338-1345(1988).
BIOCHEM. ASSOACTIVE ACTIVITY. HAS A CGMP-STIMULATING ACTIVITY.
-: SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 118; DB 1; Length 145;
Pred. No. 2.10e-15;
3; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           POTENTIAL. ATRIAL FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SUBMITTED (XXX-1992) TO EMBL/GENBANK/DDBJ DATA BANKS
                                           Score 118; DB 1;
Pred. No. 2.10e-15;
3; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   145 AA; 15934 MW; 6A1FA352 CRC32,
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15-JUL-1998 (REL. 36', LAST ANNOTATION UPDATE)
VENTRICULAR NATRIURETIC PEPTIDE (VNP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        36 AA
14A325F7 CRC32;
                                                                                                                                                                                                                                                                                             145 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PROGITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                             PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-AUG-1991 (REL. 19, CREATED)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    86.1%;
llarity 82.4%;
Conservative
3263 MW;
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                                           Query Match
Best Local Similarity 82.4%;
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EMBL; D01043; D1001314; -.
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                                                                                                                                                                         1 CFGGRMDRIGAQSGLGC 17
                                                                                                                                             11 CFGSRIDRIGAQSGMGC 27
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
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Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 122-145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE; 89025806.
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30 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANFV_ANGJA
P22642;
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ANF_RANCA
P18909;
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DISULFID
SEQUENCE
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01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
01-FEB-1995 (REL. 31, LAST ANNOTATION UPDATE)
ATRILA NATRIURFITC FACTOR (ANF) (ATRIAL NATRIURFIC PEPTIDE) (ANP).
RANA RIDIGUNDA (LAUGHING FROG) (MARCH FROG).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; AMPHIBIA; BATRACHIA; ANURA;
                                                                                                                                                                                                                OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO H.; "Structure of dog and rabbit precursors of atrial natriuretic polypeptides deduced from nucleotide sequence of cloned cDNA."; BIOCHEM. BIOPHYS. RES. COMMUN. 132.892-899(1985).

-: FUNCTION: ATRIAL NATRIURFIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP)
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BEDLINE: 89005705.

LAZURE C., ONG H., MCNICOLL N., NETCHITAILO P., CHRETIEN M.,

DE LEAN A., VAUDRY H.;

"The amino acid sequences of frog heart atrial natriuretic-like
peptide and mammalian ANF are closely related.";

FEBS LETT. 238:300-330(1988).

-i- FUNCTION: VASOACTIVE ACTIVITY. HAS A CGMP-STIMULATING ACTIVITY.

-i- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                        A DISTLFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                       KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
                                                                  ORYCTOLAGUS CUNICULUS (RABBIT).
EUKRRYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 128; DB 1; Length 153;
Pred. No. 2.98e-18;
1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16843 MW; 1FA4FB42 CRC32;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR; S01657; S01657.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PIR; B25302; AWRB.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
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Best Local Similarity 94.1%;
Matches 16; Conservative
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130 · 1
153 AA;
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P09196:
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DISULFID
SEQUENCE
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     THE REAL PROPERTY OF THE PROPE
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MEDLINE; 89136947.

A MGUYEN T.T., LAZURE C., BABINSKI K., CHRETIEN M., ONG H., DE LEAN A.;
A MGUYEN T.T., LAZURE C., BABINSKI K., CHRETIEN M., ONG H., DE LEAN A.;
A MGOYEN CORCERONE SECRETION inhibitory factor: a novel neuropeptide in boving chromaffin cells.";
ENDOCRINOLOGY 124:1591-1593(1989).

- : FUNCTION! INHIBITES ALDOSTERONE SECRETION.
- : FUNCTION! WASOACTIVE ACTIVITY.
- : FUNCTION! VASOACTIVE ACTIVITY.
- : FUNCTION! WASOACTIVE ACTIVITY.
- : ISSUE SPECIFICITY: BRAIN AND ALSO IN ATRIA, BUT AT MUCH LOWER LEVELS THAN ANP.
- : SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
- PROSITE; PSO0263; NATRIURETIC_PEPTIDE; 1.
- PRAM; FOROILE; ANP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUZUKI R., TAKAMASHI A., TAKEI Y.;
"Different molecular forms of C-type natriuretic peptide isolated from the brash and heart of an elasmobranch, Triakis scyllia.";
J. ENDOCRINOL. 135:317-32(1992).
-i. FUNCTION: VASORELAXANT ACTIVITY. HAS A CGMP-STIMULATING ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -:- TISSUE SPECIFICITY: CNP-115 IS DIFFERENTIALLY PROCESSED TO PRODUCE (NP-38 AND CNP-39) IN THE HEART AND CNP-22 IN THE BRAIN.
-:- SIMILARIYY: BELONGS TO THE NATRIURELIC PEPTIDES FAMILY.
PROSITE; PSO(263; NATRIURETIC_PEPTIDE; 1.
     EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; BOS
                                                                                              MEDIINE; 90114187.

NGUYEN T.T., LAZURE C., BABINSKI K., CHRETIEN M., DE LEAN A., ONG
"PUTÍfication and primary structure of pro-aldosterone secretion
inhibitory factor from bovine adrenal chromaffin cells.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GAMMA-BRAIN NATRIURETIC PEPTIDE.
ALDOSTERONE SECRETION INHIBITORY FA
BRAIN NATRIURETIC PEPTIDE (BNP-26).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TRIAKIS SCYLLIUM (LEOPARD SHARK) (TRIAKIS SCYLLIA).
EUKARYOTA, METAZOA, CHORDATA, VERTEBRATA, CHONDRICHTHYES;
ELASMOBRANCHII; CARCHARHINIFORMES; TRIAKIDAE; TRIAKIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score luo;
Pred. No. 4.45e-12;
Pred. ....+ches 2; Indels
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7488BCC0 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MW; E3823460 CRC32;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-OCT-1996 (REL. 34, LAST ANNOTATION
C-TYPE NATRIURETIC PEPTIDE (CNP-115)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CNP-39.
CNP-38.
CNP-22.
                                                                                                                                                                                                 MOL. ENDOCRINOL. 3:1823-1829(1989)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-OCT-1996 (REL. 34, CREATED)
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76.58;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-HEART, AND BRAIN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       103
103
103
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78
94
99
115 AA;
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78
81
                                                                                                                                                                                                                                                  SEQUENCE OF
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P55208;
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01-0CT-1996
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PEPTIDE
PEPTIDE:
DISULFID
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PEPTIDE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANGUILLA JAPONICA (JAPANESE EEL).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; ACTINOPTERYGII; NEOPTERYGII;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ø
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAKEI Y., TAKAHASHI A., WATANABE T.X., NAKAJIMA K., SAKAKIBARA S.;
"Amino acid sequence and relative biological activity of eel atrial
natituretic peptide.";
BIOCHEM. BIOPHYS. RES. COMMUN. 164:537-543(1989).
-:- FUNCTION: EXHIBITS NATRIDERIC AND VASODEPRESSOR ACTIVITY. HAS ACHIVITY.
                                                                                              ATRIAL NATRIURETIC FACTOR (ANF) (ATRIAL NATRIURETIC PEPTIDE) (ANP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-57A-1990 (REL. 13, CREATED)
01-57A-1992 (REL. 24, LAST SEQUENCE UPDATE)
01-0CT-1996 (REL. 14, LAST ANNOTATION UPDATE)
01-0CT-11996 (REL. 14, LAST ANNOTATION (BNP) (ALDOSTERONE SECRETION UNHIBITORY FACTOR) (ASIF).
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                                                                                                                                                                                                                                                                                                                                                                                                                        Length 36;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 27;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                   ; DB 1; Lenç
. 9.97e-14;
FELEOSTEI; ANGUILLIFORMES; ANGUILLIDAE; ANGUILLA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FELEOSTEI; ANGUILLIFORMES; ANGUILLIDAE; ANGUILLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 110; DB 1; 1
Pred. No. 3.56e-13;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-NOV-1990 (REL. 16, CREATED)
01-NOV-1990 (REL. 16, LAST SEQUENCE UPDATE)
15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CA151EFA CRC32;
                                                                                                                                                                                                                                                                                                                                                                       B3E8D338 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                     Score 112; DB 1
Pred. No. 9.97e-
1; Mismatches
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                                                                                                                                                                                                                                             PIR; S15821; S15821.
PROSITE: PS00265; NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212; ANP; 1.
VASOACTIVE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PIR; A33431; A33431.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                   22
3941 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   7 23
27 AA; 2792 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                         82.48;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match 80.3%;
Best Local Similarity 76.5%;
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                        81.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local Similarity 82.4%;
Matches 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6 CFGTRMDRIGSWSGLGC 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 CFGGRMDRIGAQSGLGC 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
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                                                                         FISSUE-HEART VENTRICLE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FISSUE-HEART ATRIUM;
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36 AA;
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P13204;
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ANF_ANGJA
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STANDOCCOLTANDOCS

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Gaps

FACTOR.

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Best Local Similarity 76.5%; Pred. No. 4.45e-12; Matches 13; Conservative 2; Mismatches 2; Indels 0; Gaps

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99 CFGVKLDRIGAMSGLGC 115 |||-::||||| |||||| 1 CFGGRMDRIGAQSGLGC 17

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Search completed: Wed Jun 16 13:15:17 1999 Job time : 7 secs.

US-09-027-777B-1.rspt

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protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed Jun 16 13:15:34 1999; MasPar time 4.67 Seconds 198.730 Million cell updates/sec Run on:

Tabular output not generated.

>US-09-027-777B-1 (1-17) from US09027777B.pep 137 Description: Perfect Score:

1 CFGGRMDRIGAQSGLGC 17 PAM 150 Gap 15 Scoring table: Seguence:

179066 seqs, 54579741 residues Searched:

Minimum Match 0% Listing first 45 summaries Post-processing:

Database:

sptremb19

1:sp_archea 2:sp_bacteria 3:sp_fungi 4:sp_human 5:sp_invertebreate 6:sp_nammal 7:sp_mhc 8:sp_organelle 9:sp_phage 10:sp_plant 11:sp_rodent 12:sp_unclassified 13:sp_vertebrate 14:sp_virus

Mean 26.929; Variance 35.212; scale 0.765 Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		æ					
0,	Score	Query	Query Match Length DB	DB	Ω	Description	Pred. No.
	137	100.0	151	4	913766	ATRIAL NATRIURETIC FAC	3.71e-19
	137	100.0	152	9	046540	ATRIAL NATRIURETIC PEP	3.71e-19
	137	100.0	155	9	029130	CARDIODILATIN, ATRIAL	3.71e-19
	106	77.4	129	9	046541	BRAIN NATRIURETIC PEPT	5.15e-11
	86	62.8	121	11	055086	BRAIN NATRIURETIC PEPT	4.04e-06
	98	62.8	139	13	P79799	NATRIURETIC PEPTIDE.	4.04e-06
	62	45.3	336	4	.092623	MYELOBLAST KIAA0227 (F	7.33e-01
	9	43.8	454	~	.067373	UDP-N-ACETYLMURAMATE-A	1.82e+00
	9	43.8	539	4	015860	VAV ONCOGENE (FRAGMENT	1.82e+00
	50	43.1	281	S	019208	COSMID FORF8.	2.84e+00
	59	43.1	307	7	052960	UNKNOWN PRODUCT.	2.84e+00
	59	43.1	352	2	019209	COSMID FO8F8.	2.84e+00
	z,	43.1	394	7	P72780	PROTEASE HHOA.	2.84e+00
	56	43.1	634	Ξ	061510	ESTROGEN-RESPONSIVE FI	2.84e+00
	56	43.1	802	7	068595	HYDROXAMATE-TYPE FERRI	2.84e+00
	28	42.3	158	10	049355	DIHYDRODIPICOLINATE SY	4.42e+00
	28	42.3	289	~	051585	HYPOTHETICAL 32.3 KD P	4.42e+00
	28	42.3	356	7	087498	ALANINE RACEMASE (EC 5	4.42e+00
	57	41.6	402	7	P77902	PROBABLE CYTOCHROME P4	6.84e+00
	53	41.6	404	~	054302	CYTOCHROME P450.	6.84e+00

6.84e+00	6.84e+00	6.84e+00	6.84e+00	6.84e+00	1.05e+01	1.05e+01	1.05e+01	1.05e+01	1.05e+01	1.05e+01	1.05e+01	1.05e+01	1.05e+01	1.05e+01	1.61e+01	1.61e+01	1.61e+01	1.61e+01	2.45e+01	2.45e+01	2.45e+01	2.45e+01	2.45e+01	2.45e+01
ORF H1777.	HYPOTHETICAL 48.8 KD P	PROLINE PERMEASE (PUTP	ESTROGEN RESPONSIVE FI	TRANSCRIPTIONAL ACTIVA	HYPOTHETICAL 14.6 KD P	SIMILAR TO MOUSE CREB-	MO1G12.12 PROTEIN (FRA	ARGININE DECARBOXYLASE	T02E9.3 PROTEIN.	POLY A POLYMERASE.	<pre>1L-17 RECEPTOR.</pre>	SIMILAR TO ACHLYA AMBI	PROLINE DEHYDROGENASE.	RB18A · PROTEIN.	RESISTANCE COMPLEX PRO	CONSERVED PROTEIN.	REVERSE-TRANSCRIPTASE-	STORAGE PROTEIN-BINDIN	METHANOL DEHYDROGENASE	COS41.7.	NITRATE ASSIMILATION P	SINGLE-STRAND DNA-BIND	PENICILLIN-BINDING PRO	CELLULOSE SYNTHASE (FR
054549	025371	024896	014258	042804	053503	019744	062315	082475	045732	066728	043844	001757	044334	043810	024017	026407	080790	026654	032697	P91585	027590	098948	053380	065338
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416	432	496	630	875	134	295	604	702	763	824	866	1043	1228	1566	373	479	970	1163	179	190	248	286	405	1081
41.6	41.6	41.6	41.6	41.6	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.9	40.1	40.1	40.1	40.1	39.4	39.4	39.4	39.4	39.4	39.4
22	57	22	22	27	26	26	26	26	26	26	99	26	99	26	22	52	55	22	54	24	54	24	54	54
21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

RESULT 1 0.13766 AC 013766 AC 013766 BC 013766 BC 013766 DT 01-NOV-1996 (TREMBLREL. 0), CREATED DT 01-NOV-1996 (TREMBLREL. 0), LAST SEQUENCE UPDATE) DE 01-NOV-1996 (TREMBLREL. 0), LAST SEQUENCE UPDATE) DE 01-NOV-1996 (TREMBLREL. 0), LAST SEQUENCE UPDATE) DE 01-NOV-1996 (TREMBLREL. 0), LAST SEQUENCE UPDATE) CC ENTRARCHIAL MATRIURETIC FACTOR PRECURSOR. CC FATRARCHIAL MATRIURETIC FACTOR PRECURSOR. RN 11 RN 1				ES;																		Ŭ									
SULT 1 013766 FRELIMINARY; PRT; 151 AA. 013766 FRELIMINARY; PRT; 151 AA. 013766				IMAT				:										ANP)				aps									
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SULT 1 013766 ERELIMINARY; 013766 01-NOV-1996 (TREMBLREL. 01, C 01-NOV-1996 (TREMBLREL. 09, LATRIAL NATRIURETIC FACTOR PRE- 01-JAN-1999 (TREMBLREL. 09, LATRIAL NATRIURETIC FACTOR PRE- HOMO SAPIENS (HUMAN). EUKARYOTA; METAZOA; CHORDATA; CATARRINI; HOMINIDAE; HOMO. [1] SEDDMAN C.E., BLOCH K.D., ZIS DUBY A.D., CHOI E., GRAHAM R., MODICALINE; 8526610. SEIDMAN C.E., BLOCH K.D., ZIS DUBY A.D., CHOI E., GRAHAM R., MODICALINE; 8526510. EMBL; M54951; G178638; JOINED PROSTIE; PS00263; NATRIURETIC PFAM; PF0212; ANP; 1. SIGNAL 124 151 DISCULFID 130 146 SEQUENCE 151 AA; 16381 MW; SEQUENCE 151 AA; 16381 MW; DUBEY MATCH 130 CFGGRMDRICAQSGLGC 146 [1 CFGGRMDRICAQSGLGC 146 1 CFGGRMDRICAQSGLGC 17 SULT 2 SULT 2 O46540; 01-UUN-1998 (TREMBLREL. 06, C. 01-AUG-1998 (TREMBLREL. 07, LATRIURETIC PEPTIDE.	151	ENC		ATA				SM	MAN								LAT	ATR	ARI	A3 (J. latc]					152			TATE OF THE PARTY	
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Query Match
Best Local Similarity 76.5%;
Matches 13; Conservative
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MEDLINE; 94237953.
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P79799
P79799;
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EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARIIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
ANP.
OVIS ARIES (SHEEP).
EUKARYOTA: METAZOA: CHORDATA: VERTEBRATA; MAMMALIA; EUTHERIA:
ARTIODACTYLA: RUMINANTIA: PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
                                                                                                                                                                                                                                                                                                                                                                   Gaps
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AITKEN G.D., RAIZIS A.M., GEORGE P.M., ESPINER E.A., CAMERON V.A.;
SUBMITTED (DEC-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
BELL: AF0374665, G2708652;
PROSITE: PS00263; NATRURETIC_PEPTIDE; 1.
SEQUENCE 129 AA; 14118 MW; 85DE4222 CRC32;
                                                                                                                          SEQUENCE FROM N.A.

AITKEN G.D., RAIZIS A.M., GEORGE P.M., ESPINER E.A., CAMERON V.A.;
SUBMITTED (DEC-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; AF037465, G2708650;
PROSITE: PS00053; NATRIGETIC_PEPTIDE; 1.,
SEQUENCE 152 AA: 16368 MW; D5360BCC CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT

1D Q29130
AC Q29130
AC Q29130
AC Q29130
DT O1-NOV-1996 (TREMBLREL. 01, CREATED)
DT O1-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
DT O1-NOV-1998 (TREMBLREL. 03, LAST ANNOTATION UPDATE)
DT O1-NOV-1998 (TREMBLREL. 03, LAST ANNOTATION UPDATE)
DE CARDIODILATIN, ATRIAL NATRIURETIC PEPTIDE.
OS EUKARYOTA: METAZOA: CHORDATA: VERTEBRATA: MANMALIA: EUTHERIA:
OC EUKARYOTA: METAZOA: CHORDATA: VERTEBRATA: MANMALIA: EUTHERIA:
CASUDENCTA: TUPAILDAE: TUPAILA.
RA SCUENCE-HEART:
RA SCUENCE FROM N.A.
RI SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
RY SEQUENCE FROM N.A.
RA SCHNEIDEMANN
RA SCHNEIDEMANN
RA SEQUENCE FROM N.A.
RA SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
RA SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
DR REMBL: Z707944: E3334699: -.
DR PEMB: PRO0212: ANP: 11.
DR PFAM: PRO0212: ANP: 11.
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                                                                                                                                                                                                                                                                                                                 Length 152;
                                                                                                                                                                                                                                                                                                                                                                   0; Indels
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SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL. 270294; E233859; -
PROSITE: PS00063; NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212; ANP: 1.
SEQUENCE 155 AA: 16860 MW; 77E8CA8B CRC32;
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046541;
01-JUN-1998 (TREMBLREL. 06, CREATED)
01-JUSS (TREMBLREL. 06, LAST SEQUENCE UPDATE)
01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
BRAIN NATRIURETIC PEPTIDE.
                                                                                                                                                                                                                                                                                                               Score 137; DB 6; 1
Pred. No. 3.71e-19;
                                                                                                                                                                                                                                                                                                                                                                     0; Mismatches
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Best Local Similarity 100.0%;
Matches 17; Conservative
                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.0%;
Matches 17; Conservative
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SCIUROGNATHI; MURIDAE; MURINAE; MUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
TISSUE-VENOM GIAND;
MEDLINE; 98092299.
HO P.L., SOARES M.B., MAACK I., GIMENEZ I., PUORTO G., FURTADO M.F.D..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEVENTY.
STRAIN-129/SV,
MEDLINE; 97031884.
TAMURA N., OGAWA Y., YASODA A., NAKAO K.;
TAMURA N., OGAWA I., YASODA A., NAKAO K.;
TAMURA N., OGAWA I., YASODA A., NAKAO K.;
TAMURA GENTALINETIC PEPTIGE are organized in tandem in the mouse and brain natriuretic peptide) are organized in tandem in the mouse and brain natriuretic peptide) are organized in tandem in the mouse and brain natriuretic peptide) are organized in tandem in the mouse and brain natriuretic peptide).

J. MOL. CELL. CARDIOL. 28:1811-1815(1996).
EMBL: D82049: D1025069;
PROSITE: PS00263; NATRIURETIC_PEPTIDE; 1.
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                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MICRURUS CORALLINUS.
EUKRRYOTA, METAZOA, CHORDATA, VERTEBRATA, LEPIDOSAURIA, SQUAMATA,
SCLEROGLOSSA, SERPENTES, COLUBROIDEA, ELAPIDAE, ELAPINAE, MICRURUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OGAWA Y., ITOH H., TAMURA N., SUGA S., YOSHIMASA T., UEHIRA M., MATSUDA S., SHIONO S., NISHIMOTO H., NAKAO K.; "Molecular cloning of the complementary DNA and gene that encode mouse brain natriuretic peptide and generation of transgenic mice that overaxpress the brain natriuretic peptide gene."; J. CLIN. INVEST. 93:1911-1921(1994).
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Score 106; DB 6; Lengtn 12;
Pred. No. 5.15e-11;
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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HO P.L., SOARES M.B., YAMANE T., RAW I.;
J. TOXICOL. TOXIN. REV. 14:327-337(1995)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
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055086 PRELIMINARY;
055086;
01-JUN-1998 (TREMBLREL. 06, 01
01-JUN-1998 (TREMBLREL. 06, 1
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Best Local Similarity 64.7%;
Matches 11; Conservative
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                                                                                                                              107 CFGRRLDRIGSLSGLGC 123
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Gaps

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Score 60; DB 2; Length 454; Pred. No. 1.82e+00; 5; Mismatches 3; Indels

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DECKERT G., WARREN P.V., GAASTERLAND T., YOUNG W.G., LENOX A.L., GRAHAM D.E., OVERBEEK R., SNEAD M.A., KELLER M., AUJAY M., HUBER R., FELDMAN R.A., SHORT J.M., OLSON G.J., SWANSON R.V.; SUBMITTED (JUL.1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL, AE000736; G2983764;
                                                                                                                                                                                                            SEQUENCE 454 AA; 50893 MW; 1207F9CE CRC32;
                                                                                                                                                                                                                                                    Query Match
43.8%;
Best Local Similarity 46.7%;
Matches
7; Conservative
                                                                                                                                                                                                                                                                                                                                                   139 IGGRLKRLGTNAKLG 153
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NON_TER 539 :
SEQUENCE · 539 AA;
       [2]
SEQUENCE FROM N.A.
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                                                      STRAIN-VF5;
                                                                                                                                                                                         LIGASE.
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         SKARARO
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SEQUENCE FROM N.A.

(TISSUE-BONE MARROW).

X MEDLINE: 97191544.

RA TANAKA A., KOTANI H., MIYAJIMA N., NOMURA N.;

RT THARAKA A., KOTANI H., MIYAJIMA N., NOMURA N.;

RT The coding sequences of unidentified human genes. VI.

RT The coding sequences of 80 new genes (KIAA0201-KIAA0280) deduced by analysis of cDNA clones from cell line KG-1 and brain.";

RT DNA RES. 3:321-329(1996).

RE DNA RES. 3:321-329(1996).

DR PRAM: PF00515; TPR: 1

CONTROL OF TRANSARY.

RE DNA RES. 3:321-379(1996).

RE DNA RES. 3:321-379(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HOMO SAPIENS (HUMAN).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
CATARRHINI; HOMINIDAE; HOMO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                           Gaps
                       natriuretic peptide from the South American
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE; 98196666.

MEDKERT G., WARREN P.V., GAASTERLAND T., YOUNG W.G., LENOX A.L., GRAHAM D.E., OVERBEEK R., SNEAD M.A., KELLER M., AUJAY M., HUBER FELDMAN R.A., SHORT J.M., OLSON G.J., SNANSON R.V.; The complete genome of the hyperthermophilic bacterium Aquifex aeolicus.":

NATURE 392:353-358(1998).
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                                                                                                                                                                                                            Length 139;
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Pred. No. 7.33e-01;
3; Mismatches 2; Indels
                                                                                                                                                                                                                                                         4; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                         092623;
01-FEB-1997 (TREMBLREL. 02, CREATED)
01-FEB-1997 (TREMBLREL. 02, LAST SEQUENCE UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-AUG-1998 (TREMBLREL. 07, CREATED)
01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
01-NOY-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
UDP-N-ACETYLMURAMATE-ALANINE LIGASE.
                                                                                                                                                                                                       Score 86; DB 13; I
Pred. No. 4.04e-06;
2; Mismatches 4;
RAW I.;
"Cloning of an unusual natriuretic peptide from coral snake Micrurus corallinus.";
EUR. J. BICCHEM. 250:144-149(1997).
EMBL; U77596; G1684874;
PROSITE; PSOU263; NATRIURETIC_PEPTIDE; 1,
PERM: PFRO1212; ANP: 1.
PEQUENCE 139 AA; 14881 MW; 05421ABB CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BACTERIA; AQUIFICALES; AQUIFICACEAE; AQUIFEX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         454 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                           336 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MYELOBLAST KIAA0227 (FRAGMENT)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  45.3%;
llarity 58.3%;
Conservative
                                                                                                                                                                                                         Query Match 62.8%;
Best Local Similarity 64.7%;
Matches 11; Conservative
                                                                                                                                                                                                                                                                                                    86 CFGQRIDRICNVSGMGC 102
                                                                                                                                                                                                                                                                                                                                1 CFGGRMDRIGAQSGLGC 17
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                                                                                                                                                                                                                                                                                                                                                                                                                                           PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               112 GGRMERKGSAAG 123
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Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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067373
067373;
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CATARRHINI; HOMINIDAE; HOMO.
                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 1-36 FROM N.A.
RAMOS-MORALES F., FOMERO F., SCHWEIGHOFFER F., BISMUTH G., CAMONIS J.,
TORTOLERO M., FISCHER S.;
ONCOCENE 11:1665-1669(1995).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
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Pred. No. 1.82e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3; Indels
                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
ROMERO F.;
SUBMITTED (JAN-1995) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                               ROMERO F.;
SUBMITTED (MAR-1995) TO EMBL/GENBANK/DDBJ DATA BANKS.
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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                                                                         539 AA
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PROSITE; PS00479; DAG_PE_BINDING_DOMAIN; 1.
PROSITE; PS00741; GDS_CDC24; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRT;
                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PFAM; PF00017; SH2; 1.
PFAM; PF00018; SH3; 2.
PFAM; PF00130; DAG_PE-bind; 1.
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08,
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Best Local Similarity 46.7%;
Matches 7; Conservative
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019208
019208;
01-NOV-1996 (TREMBLREL. 0:
01-NOV-1998 (TREMBLREL. 0:
01-NOV-1998 (TREMBLREL. 0:
COSMID FOBF8.
                                                   ULT 9 OL5860 PRELIMINARY;
015860;
01-80V-1996 (TREMBLREL. 0:
01-NOV-1998 (TREMBLREL. 0:
01-NOV-1998 (TREMBLREL. 0:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         374 YAGPMERAGAESILA 388
                                                                         PRELIMINARY;
                                                                                                                                                              VAV ONCOGENE (FRAGMENT).
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2 FGGRMDRIGAQSGLG 16
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RESULT

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08,
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03,
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Best Local Similarity 50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            7; Conservative
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01-FEB-1997 (TREMBLREL.
01-JAN-1999 (TREMBLREL.
                        PRELIMINARY;
                                                                               01-NOV-1996 (TREMBLREL.
01-NOV-1996 (TREMBLREL.
01-NOV-1998 (TREMBLREL.
COSMID FO8F8.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-BRISTOL N2;
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P72780
P72780;
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T 12
Q19209
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                                                                                                                                                                                                    MILSON R., AINSCOUGH R., ANDERSON K., BAYNES C., BERKS M.,
BONTELLD J., BURTON J., CONTELL M., COPSET T., COOPER J., COULSON A.,
EGARDYER M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L.,
GRANDKER M., GREEN P., HAWKINS T., HILLIER L., JIER M., JOHNSTON L.,
JONES M., KERSHAW J., KIRSTEN J., LAISTER N., LATREILLE P.,
LIGHTNING J., LLOYD C., MCWHRAY A., MORTIMORE B., O'CALLAGHAN M.,
PERCONS J., PERCY C., RIFKEN L., ROOPRA A., SAUNDERS D., SHOWNKEEN R.
SMALDON N., SMITH A., SONNHAMMER E., STADEN R., SULSTON J.,
THIERRY-MIEG J., THOMAS K., WAUDIN M., VAUGHAN K., WATENSTON R.,
WATSON A., WEINSTOCK L., WILKINSON-SPROAT J., WOHLDMAN P.).
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insertion sequence ISRm6, a small transposable element that belongs
to the IS3 family.";
GENE 175:43-48(1996).
EMBL: X95567; E221839; --
SEQUENCE 307 AA; 33688 MW; 8B9F5785 CRC32;
   CAENORHABDITIS ELEGANS.
EUKARYOTA; META2OA; NEMATODA; SECERNENTEA; RHABDITIA; RHABDITIDA;
RHABDITINA; RHABDITOIDEA; RHABDITIDAE; PELODERINAE; CAENORHABDITIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RHIZOBIUM MELILOTI.
BACTERIA; PROTEOBACTERIA; ALPHA SUBDIVISION; RHIZOBIACEAE GROUP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
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Pred. No. 2.84e+00;
.5; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 281;
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STRAIN-BRISTOL N2;
WATERSTON R.;
WATERSTON R.;
EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; U28991; G861368; -.
SEQUENCE 281 AA; 32314 MW; A80C66BA CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TO EMBL/GENBANK/DDBJ DATA BANKS
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01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
UNKNOWN PRODUCT.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 59; DB 5; Le
Pred. No. 2.84e+00;
2; Mismatches 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   307 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RHIZOBIACEAE; SINORHIZOBIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            larity 41.2%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     / Match
Local Similarity 50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     70 CSGGRESRPASTASIGC 86
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       176 CFGGRRARSASPIG 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          elegans.";
NATURE 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1 CFGGRMDRIGAQSG 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBMITTED (JUN-1995)
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Best Local Similarity
Matches 7; Conserv
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ZEKRI S., TORO N.;
                                                                                                                                                   STRAIN-BRISTOL N2;
MEDLINE; 94150718.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. STRAIN-BRISTOL N2,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STRAIN-GR4;
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052960
052960;
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Matches
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8 ö RESULT OF THE PROPERTY OF THE

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SEQUENCE FROM N.A.

SEQUENCE FROM N.A.

SEQUENCE PROM N.A.

STRAIN-BRISTOL N.2;

WILSON R., AINSCOUGH R., ANDERSON K., BAYNES C., BERKS M.,

MILSON R., AINSCOUGH R., CONNELL M., COPERT J., COOPER J., CONLEON J.,

CRAXTON M., DEAR S., DU Z., DUYBBIN R., FAVELLO A., FULTON L.,

CRAXTON M., DEAR S., DU Z., DUYBBIN R., JAIR M., JOHNSTON L.,

A GARDNER A., GREEN P., HAWKINS T., HILLIER L., JIER M., JOHNSTON L.,

LIGHTNING J., LLOYD C., MCWURRAY A., MONTIMORE B., O'CLLAGRAN M.,

A PARSONS J., PERCY C., MCWURRAY A., SAUNDERS D., SHOWNKEEN R.,

ANALDON N., SMITH A., SONNHAMMER E., STADEN R.,

ANALDON N., SMITH A., SONNHAMMER E., STADEN R.,

ANATSON A., WEINSTOCK E., WILKINSON SEROAT J., WOHLDMAN P.,

RATSON A., WEINSTOCK E., WILKINSON SEROAT J., WOHLDMAN P.,

THIERRY-MIEG J., THOMÁS K., WILKINSON SEROAT J., WOHLDMAN P.,
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MEDLINE; 97061201.
KANEKO T., SATO S., KOTANI H., TANAKA A., ASAMIZU E., NAKAMURA Y.,
MIYAJIMA N., HIROSAWA M., SUGIURA M., SASAMOTO S., KIMURA T.,
MIYAJIMA I., MATSUNO A., MURAKI A., NAKAZAKI N., NARUO K., OKUMURA S.,
SHIMPO S., TAKEUCHI C., WADA T., WATANABE A., YAMADA M., YASUDA M.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                CAENORHABDITIS ELEGANS.
EUKARYOTA: METAZOA; NEMATODA; SECERNENTEA; RHABDITIA; RHABDITIDA;
RHABDITINA; RHABDITOIDEA; RHABDITIDAE; PELODERINAE; CAENORHABDITIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
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Pred. No. 2.84e+00;
2; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SYNECHOCYSTIS SP. (STRAIN PCC 6803).
BACTERIA; CYANOBACTERIA; CHROOCOCCALES; SYNECHOCYSTIS
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SUBMITIED (JUN-1995) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; UZ891; G861369; -
SEQUENCE 352 AA; 40771 MW; 31044AAA CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TABATA S.;
SUBMITTED (JUN-1996) TO EMBL/GENBANK/DDBJ DATA BANKS
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
                                       LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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CREATED)
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Search completed: Wed Jun 16 13:16:30 1999 Job time : 56 secs.
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SCIUROGNATHI; MURIDAE; MURINAE; MUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
              "Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. PCC6803. II. Sequence determination of the entire genome and assignment of potential protein-coding regions."; DNA RES. 3:109-136(1996).
EMBL. D90900; D1017528; -.
PFRAM; PF00089; LTypsin; 1.
PFRAM; PF0055; PDZ; 1.
                                                                                                                                                                                                                                                     Gaps
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BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; PSEUDOMONAS GROUP;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           "Molecular cloning, structure, and expression of mouse estrogen-responsive finger protein (efp): co-localization with estrogen receptor mRNA in target organs.", J. BlOL. CHEM. 270:24406-24413(1995).
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MEDLINES, 96210657.
OCHSNER U.A., VASIL M.L.;
"Gene repression by the ferric uptake regulator in Pseudomonas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 59; DB 11; Length 634;
Pred. No. 2.84e+00;
5; Mismatches 2; Indels
                                                                                                                                                                                                         Score 59; DB 2; Length 394;
Pred. No. 2.84e+00;
4; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ORIMO A., INOUE S., IKEDA K., NOJI S., MURAMATSU M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                              01-NOV-1996 (TREMBLREL. 01, CREATED)
01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
ESTROGEN-RESPONSIVE FINGER PROFEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-AUG-1998 (TREMBLREL. 07., CREATED)
01-AUG-1998 (TREMBLREL. 07., LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
HYDROXAMATE-TYPE FERRISIDEROPHORE RECEPTOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            634 AA; 71772 MW; 240021EF CRC32;
                                                                                                                                                                      394 AA; 41336 MW; 87507759 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                            634 AA.
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PROSITE; PS00518; ZINC_FINGER_C3HC4; 1.
MGD; MGI:102749; ZFP147.
                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
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TISSUE-UTERUS, OVARY, PLACENTA;
MEDLINE; 96025835.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PFAM; PF00097; zf-C3HC4; 1.
ZINC-FINGER.
                                                                                                                                                                                                         Query Match
Best Local Similarity 53.8%;
Matches 7; Conservative
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Best Local Similarity 50.0%;
Matches 8; Conservative
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| CFGGRMDRIGAQSGLG 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                     353 GARLQRIVEQAGL 365
                                                                                                                                                                                                                                                                                                                             3 GGRMDRIGAQSGL 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MUS MUSCULUS (MOUSE).
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                                                                                                                                                  PROTEASE.
SEQUENCE
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061510
061510;
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068595
068595;
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Pred. No. 2.84e+00;
6; Mismatches 1; Indels
aeruginosa: cycle selection of iron-regulated genes.";
PROC. NATL. ACAD. SCI. U.S.A. 93:4409-4414(1996).
                                                                                                                         OCHSNER U.A., VASIL A.I., JOHNSON 2., VASIL M.L.;
SUBMITITED (MAR-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL, AF051691; G2981048;
SEQUENCE 802 AA; 88271 MW; 02BD9E37 CRC32;
                                                                                                                                                                                                                                                       Query Match
43.1%;
Best Local Similarity 50.0%;
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                                           2 FGGRMDRIGAQSGL 15
                                                                                                                                                                                                                                                                                                                                                                44 LAGTLNRIAAQAGL 57
                                                                           SEQUENCE FROM N.A.
                                                                                                      STRAIN-PAO1;
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746 e - 02 747 e - 02 748 e

17 95 94.1 71 4 P51102 Sequence of atrial na 6.74e-02 20 95 94.1 113 P50565 Sequence of atrial na 6.74e-02 20 95 94.1 116 3 P50102 Atrial natriuratic fa 6.74e-02 21 95 94.1 126 3 P50102 Atrial natriuratic fa 6.74e-02 21 95 94.1 126 3 P50102 Sequence of cardionat 6.74e-02 23 95 94.1 128 4 P51238 Sequence of cardionat 6.74e-02 24 95 94.1 152 7 P51238 Sequence of pro-atria 6.74e-02 24 95 94.1 152 2 P50325 Ggamma-rat atrial nat 6.74e-02 25 94.1 152 2 P50325 Ggamma-rat atrial nat 6.74e-02 27 79 78.2 102 4 P51242 Sequence of pro-peptide 2.06e+00 28 77.2 71.3 152 2 P51242 Sequence of the exten 2.54e+00 30 78.2 17.2 10.2 4 A R21677 Beta-gal leader and p 2.06e+00 31 77.2 16.3 P50086 Sequence of the exten 2.54e+00 31 77.2 15.3 15.2 2 P81655 Sequence of atrial na 2.99e+01 35 66 65.3 33 4 P51103 Sequence of atrial na 2.99e+01 36 66 65.3 35 1 R06352 Atrial natriuretic fa 2.99e+01 37 66 65.3 35 1 R06352 Atrial natriuretic fa 2.99e+01 38 66 65.3 35 1 R06352 Atrial natriuretic fa 2.99e+01 40 66 65.3 35 3 P50112 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60106 Atrial natriuretic fa 2.99e+01 40 66 65.3 35 3 P60106 Atrial natriuretic fa 2.99e+01 40 66 65.3 35 3 P60106 Atrial natriuretic fa 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60105 Atrial natriuretic fa 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 66 65.3 35 3 P60107 Sequence of peptide h 2.99e+01 40 60 60 60 60 60 60 60 60 60 60	ALIGNMENTS	RESULT 1 ID P56493 standard; protein; 88 AA. AC P50493; standard; protein; 88 AA. DT 18 MAR-1992 (first entry) DE Cardiodilatine peptide hormone variant. KW Cardiodilatine; peptide; hormone; hypotensive; ss. PN w069502850-A. PD 04-JUL-1985. PF 21-DEC-1984; D00279. PR 24-DEC-1984; DE-346593. PA (ORGA-) ORGANOGEN MED MOL. PI FORSSMANN WG;		ints variant of the peptide destroit of 13,000 and an isoelectric por hormone, as well as its C-termin partial bromcyan separation bette behind the latter, has strong reasonuscles. It also affects si	the diagnosis and therapy of hypertension. It can also be the treatment of post-operative cardiovascular disorders, diseases, etc. The hormone may be prepared from a heart extract. See also P50491-2. Sequence 88 AA;	Ouery Match 100.0%; Score 101; DB 3; Length 88; Best Local Similarity 100.0%; Pred. No. 1.82e-02; Matches 15; Conservative 0; Mismatches 0; Indels 0; Gaps C	Db 52 Iralltaprslrrss 66
	Searched: 170751 seqs, 21266608 residues	ch 0% st 45 summe :part2 3:pe :part9 10:f 15:part15 25:part25 30:part26 33:part36	Mean 19.236; Variance 74.819; scale 0.257 No. 1s the number of results predicted by chance t	s derived by analysis of the total score of SUMMARIES Query Match Length DB ID Description	101 100.0 88 3 P50493 Cardiodilatine peptid 1.82e-101 100.0 125 1 P82656 Vasodilatory peptide. 1.82e-101 100.0 126 3 P50037 Sequence of human gam 1.82e-101 100.0 126 2 R00582 Human gamma atrial na 1.82e-	101 100.0 126 27 W34533 Human atrial natriure 1. 101 100.0 126 4 P51240 Sequence of pro-atrial 101 100.0 136 7 R86935 Human pre-proANVP #2. 1. 101 100.0 147 1 R03301 Sequence of pre-human 1. 100.0 147 1 R03301 Sequence of pre-human 1.	50 4 P11241 Sequence of pre-pro-a 1. 50 4 P51239 Sequence of pre-pro-a 1. 51 2 P70629 Sequence encoded by h 1. 51 3 P50036 Sequence of the precu 1. 51 3 P50036 Cardiodilatin peptide 1. 51 7 R36934 Human pre-proANVP #1. 1. 51 7 R36934 Rat atrial natriureti 6. 62 3 P60165 Rat recombinant pro-c 6.

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hypertension; cirrhosis; nephrosis; heart disease
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WPI; 98-017684/02
                                                                                                                                                                                                                                                                                                                                                                                           Homo sapiens
                                  10-JAN-1988
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                                                                                                                                                         Seguence
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                                                                                                                      Biologically prepared peptide -
has vein relaxation activity.
Claim 1; page 1; 13pp; Japanese
This sequence was isolated from a cDNA library prepared from
poly(A) mRNA isolated from human heart. Sequences complementary
to the DNA encoding MDRIG of cardionatrin were isolated using
a mixture of oligonucleotide probes. Two plasmids, phAVD and phMANF,
identified by this screening process, were then used to transform
E.coli which were cultured to produce the peptide.
                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NP-SDB; N50055.

New DNA sequences from human atrium cordis - coding for new diuretic polypeptide or precursor cpds.

Claim 26; Page 37: 53pp; English.

The precursor of human gamma-ANP and its 26Asn-151Tyr fragmentare claimed (P50036, P50037), as are the DNA SQs encoding them (N50020, N50055). The 26Asn-151Tyr fragment has a diuretic action so is useful as a hypotensive/antihypertensive agent. The usual dose is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
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                                                                                                                                                                                                                                                                                                                                                                             03-SEP-1991 (first entry)
Sequence of human gamma-atrium natriuretic polypeptide (ANP).
Natriuretic: diuretc; hypotensive; antihypertensive.
Homo sapiens.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ouery Match 100.0%; Score 101; DB 3; Length 126; Best Local Similarity 100.0%; Pred. No. 1.82e-02; Matches 15; Conservative 0; Mismatches 0; Indels
                                                                                                                                                                                                                                              Length 125;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LT '4
R00582 standard; protein; 126 AA.
R00582 (first entry)
05-JUN-1989 (first entry)
Human gamma atrial natriuretic polypeptide (gamma-hANP).
Gamma atrial natriuretic polypeptide; ANP; natriuretic;
                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                  11-DEC-1985.
08-JUN-1984; 116605.
08-JUN-1984; JP-116606.
08-JUN-1984; JP-116605.
(SUNT) SUNYORY LTD.
Matsuo H, Kangawa K, Hayashi Y, Oikawa S, Oshima
                                                                                                                                                                                                                                              Score 101; DB 1;
Pred. No. 1.82e-02;
                                                                                                                                                                                                                                                                   0; Mismatches
                       Vasodilatory peptide.
vasodilatory peptide; cardionatrin.
                                                                                                                                                                                                                                                                                                                                      JT 3
P50037 standard; Protein; 126 AA.
P50037;
                                                                                                  (MITU) Mitsubishi Chem Ind KK. WPI; 88-170991/25.
                                                                                                                                                                                                                                            Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
               (first entry)
                                                                                                                                                                                                                                                                                        90 lralltaprslrrss 104
                                                                                         18-SEP-1986; JP-220835.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 LRALLTAPRSLRRSS 15
                                                                   12-MAY-1988.
18-SEP-1986; 220835.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WPI; 85-312162/50.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              126 AA:
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             16-NOV-1990
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pertide fragment of hypertension and related disorders - with synthetic pertide fragment of atrial natriuretic factor pro:hormone biscours; Column 4: 19pp; English.

Disclosurs; Column 4: 19pp; English.

Disclosurs; Column 4: 19pp; English.

This sequence represents the human atrial natriuretic factor prohormone conservation. Fragments of this sequence (see W34521-W34523) can be used in the method of the invention. The method is for treating hypertension, congestive heart failure, pulmonary odema, toxaemia of pregenacy, nephrotic syndrome, acute and chronic renal failure or hepatic cirrhosis with or without ascites; comprises administering a synthetic peptide with or without ascites; comprises administering a synthetic peptide consisting of manno acids 1:30, 31-67 or 79-98 of proANF. The peptides proANF(1:30) and proANF(79-89) can also be used in a method for treating hyperkalaemia associated with acidosis, digitalis overdose, succinylcholine, insulin deficiency, acute or chronic renal failure, duretic, natriuretic and/or kaliuretic activity.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  of pregnancy;
hyperkalaemia;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   24-MAR-1998 (first entry)
Human atrial natriuretic factor prohormone, therapy; hypertension;
Human atrial natriuretic factor prohormone; therapy; hypertension;
congestive heart failure; pulmonary oedema; toxaemia of pregnancy;
nephrotic syndrome; renal failure; hepatic cirrhosis; hyperkalaemia acidosis; digitalis overdose; insulin deficiency; Addison's diseass
                                                                                                                                                                      Monoclonal antibodies recognising gamma-atrial natriuretic -
used for diagnosis of diseases eg kidney and heart disease.
Used for diagnosis of parties of diseases.
Baciosurer, Fig. 11 10pp; English.
Gamma-haNP of which the N-terminal 25 AAs are recognisy monoclonal antibodies of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .:
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                                                                                                                                                                                                                                                                                                                                                                                                                           Score 101; DB 2; Length 126;
Pred. No. 1.82e-02;
0; Mismatches 0; Indels
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30-JUN-1989; 306669.
04-JUL-1988; JP-166641.
(SHIO) Shionogi Selyaku Kabushiki.
Imura H, Nakao K;
WPI; 90-009970/02.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LT 5
W34533 standard; Protein; 126 AA.
W34533;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              15; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                09-MAR-1995; 401246.
09-MAR-1995; US-401246.
29-SEP-1987; US-102477.
01-MAY-1990; US-517552
14-NOV-1991; US-799211.
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Gaps

US-09-027-777B-2.rag

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(MATS/) Matteuo T.

WPI: 90-071804/10.

Physio-active peptide derived from birds - has cysteine bridge,

Physio-active peptide derived from birds - has cysteine bridge,

specified AA sequence and diuretic and antihypertensive properties.

Disclosure: Fig 14: 16pp; Japanese.

This sequence has 99 amino acid residues homologous to the pre-chANP.

Sequence 147 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      The inventors claim is polygeptide comprising atrial natriuretic/vasodilator polypeptide (ANVP), pro-ANVP or pre-pro-ANVP, or their fragments. The encoding DNA sequence is also claimed. The claimed polypeptides are natriuretics, duretics, vasodilators and modulators of the renin-angiotensin-aldosterone system. Dose is
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Pred. No. 1.82e-02;
0; Mismatches 0; Indels
                             Length 136;
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Johnson LK, Atlas SA, Mccarthy BJ, Laragh JH, Lewickl JA,
WPI, 8-289554746.
N-PSDB, N50655, N50763.
New atrial polypeptide cpds. - useful as natriuretics,
diuretics, vesodilators and modulators of the
renin angiotensin allosterone system
03-A02-1992 (first entry)
Sequence of pre-pro-atrial natriuretic/vasodilator
polypeptide (ANVP).
Natruiretic; dulretic; vasodilator;
venin-angiotensin-aldosterone-system.
                                                                                                                                                                                                                                                                                                                                                                                                       Sequence of pre-human atrial natriuretic peptide.
Human-chANP; diuretic; antihypertensivity; ss.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      /note= "encoded by N50763'
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Location/Qualifiers
                                                                                                                                                                                                                                                                                                             R03301 standard; protein; 147 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             P51241 standard; peptide; 150 AA P51241;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
                          Query Match
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                         15-AUG-1990 (first entry)
                                                                                         15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         111 lralltaprslrrss 125
                                                                                                                                            100 Iralltaprslrrss 114
                                                                                                                                                                          1 LRALLTAPRSLRRSS 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              14-JUL-1988; 173739.
14-JUL-1988; JP-173739.
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01-JUN-1984; US-616488.
20-JUN-1984; US-622639.
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150 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                              R03301;
                                                                                      Matches
                                                                                                                                                                                                                                                                                        RESULT
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                                                                                                                                                                                                                                                                                                                      Disclosure; Fig 1B; 45pp; English.
This sequence is encoded by the human pre-pro atrial natriuretic/
vasodlator peptide (ANVP) cDNA. Fragments of this protein and the
corresponding sequence in rat (see also R36936), may be used for
regulation of fluid volume and blood pressure in host organisms.
The ANVP fragments may be produced by solid-phase techniques. See
also R36937-78.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  vasodilator polypeptide (ANVP), pro-ANVP or pre-pro-ANVP, or their fragments. The encoding DNA sequence is also claimed. The claimed polypeptides are natriuretics, diuretics, vasodilators and modulators of the renin-angiotensin-aldosterone system. Dose is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Human; pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat; regulation; fluid volume; blood pressure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        renin-angiotensin-aldosterone system
Claim 8: Page 116: 144pp; English.
The inventors claim a polypeptide comprising atrial natriuretic/
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ö
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                                                           03-AUG-1992 (first entry)
Sequence of pro-atrial natriuretic/vasodilator polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              (BIOT-) BIOTECHNOL RES PART.
Johnson LK, Atlas SA, Mccarthy BJ, Laragh JH, Lewicki JA;
WPI: 85-289654/46.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 101; DB 4; Length 126
Pred. No. 1.82e-02;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New atrial poly:peptide cpds. - useful as natriuretics, diuretics, vasodilators and modulators of the
                                                                                                                                            Natruiretic, duiretic; vasodilator;
venin-angiotensin-aldosterone-system.
                                                                                                                                                                                                                                      Location/Qualifiers
P51240 standard; peptide; 126 AA.
P51240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             R36935 standard; Protein; 136 AA.
                                                                                                                                                                                                                                                                               /label= H-M
105..121
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Lewicki JA, Scarborough RM;
                                                                                                                                                                                                                                                                                                                                                                            /label- Y-OH
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Matches 15: Conscient
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)1-JUN-1984; US-616488.
)8-MAY-1985; US-766030.
)5-JUN-1986; US-870795.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              .9-APR-1984; US-602117.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-1984; US-616488.
20-JUN-1984; US-622639.
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09-APR-1984; US-602
                                                                                                                                                                                                                                                                                                                                                                                                                                                                16-APR-1985; U00658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0.01-100 ug/kg.
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                                                                                                                                                                                                                                                                                                                disulfide_bond
modified_site
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                                                                                                                                                                                                                                                           modified_site
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                                                        03-AUG-1992
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Gaps

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Length 151

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Matsuo H, Kangawa K, Hayashi Y, Oikawa S, Oshima T, Tanaka S, Wakazato H, Tawaragi Y; Tanaka S, Wakazato H, Tawaragi Y; Tanaka S, Wakazato H, Tawaragi Y; MwP1: 85-312162/50.

New DNA sequences from human atrium cordis - coding for new louretic polypetide or precursor cpds.

Claim 25; Fig 5; 53pp; English.

The precursor of human gamma-ANP and its 26Asn-151Tyr fragmentare claimed (P50036, P50037), as are the DNA SQs encoding them (N50020, M50055).

W50055). The 26Asn-151Tyr fragment has a diuretic action so is useful as a hypotensive/antihypertensive agent. The usual dose is
   Genetic analysis diagnostic for hypertension - by detecting polymorphous of the renin, kallikrein or ANF gene regions Disclosure; Fig 2: 51pp; English.

The patent application is for a method used for determn. of a genetic fingerprint of a subject which allows early diagnosis of individuals at risk of hypertension and permits early therapeutic measures to prevent the final symptomology of the disease. The section of the genome which is fingerprinted or otherwise subject study using the results is dependent on the nature of the probesine probes useful in the present invention are selected from the renin, kallikrein, or ANF gene (see FT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Cardiodilatin, peptide.
Cardiodilatin; plasmid pHANF48; muscle relaxant; antihypertensive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   p50036;
03-SEP-1991 (first entry)
Sequence of the precursor of human gamma-atrium natriuretic
polypeptide (ANP).
Natriuretic; diuretc: hypotensive; antihypertensive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 101; DB 3; Length 151;
Pred. No. 1.82e-02;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                        Score 101; DB 2; Length 151
Pred. No. 1.82e-02;
0; Mismatches 0; Indels
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P50036 standard; Protein; 151 AA.
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P50050 standard; protein; 151
P50050;
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Best Local Similarity 100.0%;
Matches 15; Conservative
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Best Local Similarity 100.0%;
Matches 15; Conservative
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08-JUN-1984; JP-116606.
08-JUN-1984; JP-116605.
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21-JUN-1984; JP-12833
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EP-159943-A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Homo sapiens.
EP-164273-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        New artial poly; peptide cpds. - useful as natriuretics, diuretics, vasodilators and modulators of the renin-anglotensin-andosterone system

Claim 7: Page 115: 144pp: English.

The inventors claim a polypeptide comprising atrial natriuretic/ vasodilator polypeptide (ANVP), pro-ANVP or pre-pro-ANVP, or their fragments. The encoding DNA sequence is also claimed. The claimed modulators and modulators of the renin-anglotensin-aldosterone system. Dose is
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Sequence encoded by human atrial natriuretic peptide factor (ANF)
                                                                                                                                                                                                                                          03-AUG-1992 (first entry)
Sequence of pre-pro-atrial natriuretic/vasodilator polypeptide
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Pred. No. 1.82e-02;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0.7-0.7-1985
16-APR-1985; U00658.
19-APR-1984; US-616488.
20-JUN-1984; US-616488.
20-JUN-1984; US-62639.
8-DOT) BIOTECHNÖL RES PART.
JOHNSON LK, Atlas SA, McCarthy BJ, Laragh JH, Lewicki JA; WPI; 85-299654/46.
                 Length 150;
Score 101; DB 4; Length low
Pred. No. 1.82e-02;
....matches 0; Indels
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                                                                                                                                                                                                                                                                                                 Natruíretic; duiretic; vasodilator; venin-angiotensin-aldosterone-system
                                                                                                                                                                                                                                                                                                                                                          Location/Qualifiers
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P51239 standard; peptide; 150 AA.
P51239;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Shine J, Baker AR, Frossard PM; WPI: 87-136035/19.
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24-OCT-1885; US-790813.
12-NOV-1985; US-796904.
09-JAN-1986; US-817319.
11-UUN-1986; US-873199.
(BIOT-) BIOTECHN RES PARTN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                   /label- Y-OH
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Best Local Similarity 100.0%;
Matches 15; Conservative
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             Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
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Sequence 150 AA;
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Gaps

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                                                                                                                                            corresp. DNA sequences, useful as antihypertensive agents.
Disclosure: Fig. 13; 45pp; English.
The DNA encoding the cardiodilatin is carried on plasmid pHANF48.
Cardiodilatin is a muscle relaxant, so is useful as an antihypertensive agent. The DNA is obtd. from RNA isolated from the human heart.
Sequence 151 AA;
                                                                                                                         Expression vector contg. gene for cardionatrin or cardiodilatin - and
                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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This sequence is encoded by the human pre-pro atrial natriuretic/vasodilator peptide (ANVP) DNA. Fragments of this protein and the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Human, pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat; regulation; fluid volume; blood pressure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    corresponding sequence in rat (see also N36936), may be used for regulation of fluid volume and blood pressure in host organisms. The ANVP fragments may be produced by solid-phase techniques. Sealso R36937-78.
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(MITU) Mitsubishi Chemical Industries Ltd.
Nakanishi S, Teranishi Y, Nagahari K, Shibui T, Takamatsu K;
WPI; 85-271495/44.
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                                                                                                                                                                                                                                                                                                                                                      Score 101; DB 3; Length 151;
Pred. No. 1.82e-02;
0; Mismatches 0; Indels
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C P50115 standard; peptide; 48 AA.
C P50115;
T 22-OCT-1991 (first entry)
E Rat atrial natriuretic factor-beta.
A Atrial natriuretic factor; diuretic; hypotensive.
Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                /note= "Signal peptide"
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/note= "Mature protein"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Location/Qualifiers
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R36934 standard; Protein; 151 AA.
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WPI; 93-175525/21.
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Best Local Similarity 100.0%;
Matches 15; Conservative
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Human pre-proANVP #1
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05-JUN-1986; US-870795
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09-APR-1984;
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                                                                                  WPI; 85-218548/36.

New diurelic, antihypertensive polypeptide - isolated from rat
atrium cordis.

Claim 1; Page 17; 23pp; English.

The rat atrial natriuretic factor-beta has diuretic, natriuretic and
hypotensive or hypertensive activity.

Sequence 48 As.
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                                                                                                                                                                                         Length 48;
                                                                                                                                                                                      Score 95; DB 3; LA
Pred. No. 6.74e-02;
                                                                                                                                                                                                                 Mismatches
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                                                                                                                                                                                      94.1%;
llarity 86.7%;
Conservative
                                                                                                                                                                                                                                       12 lrallagprslrrss 26
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                                  28-FEB-1985; 301364.
02-MAR-1984; JP-038816.
(SUNR ) SUNYORY LTD.
Matsuo H, Kangawa K;
disulfide_bond 27..43
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Best Local Similarity 8
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US-09-027-777B-2.rai

(AT)	24 57 56.4 2199 3 PCT-US95-1 Sequence 2, Applicatio 7.92e+01 25 54.5 134 1 US-08-463- Sequence 8, Applicatio 1.16e+02 27 55 54.5 134 2 US-08-463- Sequence 8, Applicatio 1.16e+02 28 54.5 134 2 US-08-463- Sequence 24, Applicatio 1.16e+02 29 54 53.5 577 1 US-08-484- Sequence 24, Applicati 1.41e+02 30 54 53.5 577 1 US-08-484- Sequence 24, Applicati 1.41e+02 31 54 53.5 577 1 US-08-484- Sequence 2, Applicatio 1.41e+02 31 54 53.5 107 1 US-08-484- Sequence 2, Applicatio 1.41e+02 32 55.5 107 1 US-08-434- Sequence 5, Applicatio 1.70e+02 34 53.5 107 2 US-08-434- Sequence 5, Applicatio 1.70e+02 34 53.5 2.5 107 2 US-08-434- Sequence 5, Applicatio 1.70e+02 35 52.5 107 2 US-08-752- Sequence 5, Applicatio 1.70e+02 35 52.5 107 2 US-08-752- Sequence 5, Applicatio 1.70e+02 35 52.5 107 2 US-08-752- Sequence 5, Applicatio 1.70e+02 35 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 53 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 53 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52.5 277 2 US-08-752- Sequence 5, Applicatio 1.70e+02 36 52 52 52 52 52 52 52 52 52 52 52 52 52
Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd	53 52.5 824 105.09.72 Sequence 3, Application 153 52.5 857 3 PCT-US96-1 Sequence 2, Application 153 52.5 857 2 US-08-659- Sequence 2, Application 153 52.5 857 2 US-08-659- Sequence 2, Application 153 52.5 984 3 PCT-US95-0 Sequence 19, Application 153 52.5 984 3 PCT-US95-0 Sequence 19, Application 155 52.5 984 3 PCT-US95-0
protein database search, Jun 16 13:21:01 1999; Mas nerated.	53 57.5 30/7 4 7223423.2 PATEGRT NO. 5223423.1 1 52 51.5 1810 3 PCT-US95-1 Sequence 4, Applicatio 2 51 50.5 1162 2 US-08-663 Sequence 15, Applicati 2 51 50.5 2910 2 US-08-444- Sequence 183, Applicat 2 51 50.5 2910 2 US-08-461- Sequence 183, Applicat 2
Title: >US-09-027-777B-2 Description: (1-15) from US0902777B.pep Perfect Score: 101 1	ALIGNMENTS
table: PAM 150 Gap 15	ID US-08-737-927-2 STANDARD; PRT; 15 AA. XX AC xxxxxx
Searched: 106580 segs, 10152877 residues	XX DT
Post-processing: Minimum Match 0% Listing first 45 summaries	XX DE Sequence 2, Application US/08737927 XX
Database: a-issued 1:5A_COMB 2:5B_COMB 3:PCT9_COMB 4:backfiles1	CC Sequence 2, Application US/08737927 CC Patent No. 5767239 CC GENERAL INFORMATION:
Statistics: Mean 17.828; Variance 71.575; scale 0.249	
Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.	
	TITLE OF INVENTION: NUMBER OF SEQUENCES: CORRESPONDENCE ADDRES
Result Ouery No. Score Match Length DB ID Description Pred. No.	
101 100.0 15 2 US-08-737- Sequence 2, Applicatio 8. 101 100.0 136 4 5212286-4 Patent No. 5512286 8. 101 100.0 151 4 5212286-2 Patent No. 5512286. 8. 95 94.1 152 4 5212286-6 Patent No. 5512286. 8	CC STATE: D.C. CC STATE: CC COUNTRY: U.S.A. CC COUNTRY: U.S.A. CC COMPUTER PRADATE FORM:
79 78.2 144 4 5202239-3 Patent No. 5202239. 9.45 79 78.2 144 4 5202239-1 Patent No. 5202239. 9.45 64 63.4 16 4 5449751-4 Patent No. 5449751. 2.01	MEDIOM TYPE: Floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
64 63.4 32 4 5449751-1 Patent No. 5449751. 2. 64 63.4 32 4 5449751-3 Patent No. 5449751. 2. 64 63.4 32 3 PCT-US94-1 Sequence 2, Applicatio 2.	
64 63.4 32 2 US-08-470- Sequence 15, Applicati 64 63.4 32 2 US-08-470- Sequence 18, Applicati 64 63.4 32 2 US-08-737- Sequence 4, Applicatio	CC FILING DATE:
64 63.4 32 3 PCT-US94-1 Sequence 15, Applicatio 2.01 64 63.4 32 3 PCT-US94-1 Sequence 5, Applicatio 2.01 64 63.4 32 2 US-O8-470- Sequence 5, Applicatio 2.01	
64 63.4 32 1 US-08-451- Sequence 2, Applicatio 2. 64 63.4 32 1 US-08-451- Sequence 15, Applicatio 2. 64 63.4 32 1 US-08-451- Sequence 5, Applicatio 2.	
US-08-401- Sequence 3, Applicatio 2. US-08-414- Sequence 25, Applicati 4. 5475095-2 Patent No. 5475095. 5217865-2 Patent No. 5217865.	22 .:

Gaps

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TITLE OF INVENTION: EXPRESSION OF RECOMBINANT POLYPEPTIDES
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APPLICANT: TARNOWSKI, JOSEPH S.;HILLIKER, SANDRA; WILLETT,
SCOTT W.
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                                                                                                                    Score 101; DB 4; Length 151; Pred. No. 8.81e-03; 0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR PEPTIDE COMPUNDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     156 AA.
                                                                                                                                                                                                                                                           165 AA
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NUMBER OF SEQUENCES: 16
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/564,259
FILING DATE: 07-AUG-1990
                                                                                            164 AA; 17827 MW; 143008 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   165 AA; 17987 MW; 141087 CN;
APPLICATION NUMBER: 602,117
FILING DATE: 09-APP-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94.1%;
Best Local Similarity 86.7%;
Matches 13; Conservation
                                                                                                                    Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    114 LRALLAGPRSLRRSS 128
                                                                                                                                                                           115 LRALLTAPRSLRRSS 129
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                                                                                                                                                                                                                                                           STANDARD;
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                                                                                                                                                                                                                                                                                                                                            Patent No. 5212286.
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                                                                                                                                                                                                                                                                                                                                                                     5212286
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                                                                  SEQ ID NO:2:
LENGTH: 151
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                                                                                                                                                                                                                                                                                                                 01-JAN-1900
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                                                                                                                                                                                                                                                          5212286-6
                                                                                            SEQUENCE
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                                                                                                          Length 15;
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                                                                                                                                    0; Indels
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TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPTIDE COMPUND:
NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-40N-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
                                                                                                                                                                                                                                                                                                                                                                    APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR PEPTIDE COMPUNDS
                                                                                                         Score 101; DB 2;
Pred. No. 8.81e-03;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                  Mismatches
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APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-UUN-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
FILING DATE: 08-MX-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APPR
FILING DATE: 01-UN-1984
                                                                                                                                                                                                                                               147 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       147 AA; 15978 MW; 112999 CN;
                                                     TOPOLOGY: linear
MOLECULE TYPE: peptide
SEQUENCE 15 AA; 1697 MW; 1159 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                               PRT;
                  15 amino acids
    SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
                                                                                                        Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
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                          TYPE: amino acid
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LENGTH: 136
                LENGIH:
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ID 5212286-4
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C GERHARD; HERBST, FRANZ
C GERHARD; HERBST, FRANZ
C TITLE OF INVENTION: CARDIODILATIN FRAGMENT, PROCESS FOR
TITLE OF INVENTIONS THEREOF
C NUMBER OF SEQUENCES: 4
CURRENT APPLICATION NUMBER: US/08/185,240
FILING DATE: 14-JAN 1994
C FILING DATE: 16-DEC-1992
C FILING DATE: 18-NOV-1991
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TITLE OF INVENTION: CARDIODILATIN FRAGMENT, PROCESS FOR PREPARING SAME AND USE THEREOF
                                                                   0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0; Indels
                                Score 64; DB 4; Length 16;
Pred. No. 2.01e+01;
0; Mismatches 0; Indels
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Pred. No. 2.01e+01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Mismatches
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/185,240
FILING DATE: 24-JAN-1994
FRICH AFPLICATION DATA:
APPLICATION NUMBER: 994,084
FILING DATE: 16-DEC-1992
APPLICATION NUMBER: 795,248
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SEQUENCE 35 AA; 3838 MW; 6483 CN;
17 AA; 1892 MW; 1532 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 01-SEP-1989
APPLICATION NUMBER: 100,144
FILING DATE: 28-AUG-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE: 18-NOV-1991
APPLICATION NUMBER: 401,401
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Best Local Similarity 100.0%;
Matches 10; Conservative
                                  Query Match 63.4%;
Best Local Similarity 100.0%;
Matches 10; Conservative
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                                                                                                       1 TAPRSLRRSS 10
                                                                                                                           6 TAPRSLERSS 15
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5449751-3
SEQUENCE
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ID 54
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                                                                                                                                                                                                                                                                                                                                                                                       nt No. 5202239
APPLICANT: TARNOWSKI, JOSEPH S.;HILLIKER, SANDRA; WILLETT
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APPLICANT: FORSSMANN, WOLF-GEORG;ALT, JEANETTE M.;BECKER;GERAARD;HERBST, FARNZ
TITLE OF INVENTION: CARDIODILATIN FRAGMENT, PROCESS FOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 79; DB 4; Length 144; Pred. No. 9.45e-01; 1; Mismatches 0; Indels
                                                                     Length 144;
                                                                     Score 79; DB 4; L
Pred. No. 9.45e-01;
1; Mismatches 0
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/185,240
FILING DATE: 24-JAN-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 994,084
FILING DATE: 16-DEC-1992
APPLICATION NUMBER: 795,248
FILING DATE: 18-NOV-1991
                                                                                                                                                                                                                                                156 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                       WITH IMPROVED PURIFICATION
NUMBER OF SEQUENCES: 16
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/564,259
FILING DATE: 07-AUG-1990
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 144
ICE ' 156 AA; 17116 MW; 129679 CN;
                                156 AA; 17115 MW; 129665 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 401,401
FILING DATE: 01-SEP-1989
APPLICATION NUMBER: 100,144
FILING DATE: 28-AUG-1987
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   / Match 78.2%;
Local Similarity 91.7%;
nes 11; Conservative
                                                                   Query Match
Best Local Similarity 91.7%;
Matches 11; Conservative
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                                                                                                                                          106 LRALLTAPRSLK 117
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            LENGTH: 144
SEQUENCE 156 AA
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LENGTH: 16
 SEQ ID NO:3:
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ID 5202239-1
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Matches
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Gaps

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APPLICANT: Oare, David
APPLICANT: McDowell, Robert S.
APPLICANT: Burnier, John
TITE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC PEPTIDES
NUMBER OF SEQUENCES: 43
CORRESPONDENCE ADDRESS:
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                                 Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIP: 94080
COMPUTER READABLE FORM:
WEDLING TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
Pred. No. 2.01e+01;
                                                                                                                                                                         32 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 64; DB 2; Len
Pred. No. 2.01e+01;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: WinPatin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,846A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               REFERENCE/DOCKET NUMBER: P0844P2C1
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEE: Genentech, Inc.
:: 460 Point San Bruno Blvd
South San Francisco
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 06-Jun-1995
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/419877
FILING DATE: 11-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/362552
FILING DATE: 06-JAN-1995
                                                                                                                                                                                                                                                                                                                    Sequence 15, Application US/08470846A Patent No. 5846932 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                  Sequence 15, Application US/08470846A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                            Lowe, David G.
Cunningham, Brian C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            JOGY: Linear
32 AA; 3564 MW; 4811 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               06-Jun-1995
N: 514
                                                                                                                                                                           STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match 63.4%;
Best Local Similarity 100.0%;
Matches 10; Conservative
           Best Local Similarity 100.0%;
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE: California
COUNTRY: USA
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                                                                 1 TAPRSLRRSS 10
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ID US-08-470-846A-15
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APPLICANT:
APPLICANT:
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APPLICANT: Lowe, David
APPLICANT: Cunningham, Brian C.
APPLICANT: Oare, David
APPLICANT: McDowell, Robert S.
APPLICANT: Burnier, John
TITLE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC
TITLE OF INVENTION: PEFTIDES
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                               ö
                                                                                                                                                                                                             0; Indels
                                                                                                                                                                         Score 64; DB 4; Length 32; Pred. No. 2.01è+01;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE: Care COUNTRY: USA
ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
TYPE: PC Compatible
TYPE: FORM: PC COMPATIBLE
                                                                                                                                                                                                                                                                                                                                                       32 AA.
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                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STREET: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
CONTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/12591
                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence 2, Application PC/TUS9412591
GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   63.4%; Score 64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 2, Application PC/TUS9412591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 08/152994
FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
                                                                                               SEQ ID NO:3:
LENGTH: 32
SEQUENCE 35 AA: 3838 MW; 6483 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                32 AA; 3508 MW; 4652 CN;
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REGISTRATION NUMBER: 32,637
REFERENCE/DOCKET NUMBER: BTLECOMMUNICATION: INFORMATION:
         FILING DATE: 18-NOV-1991
APPLICATION NUMBER: 401,401
FILING DATE: 01-SEP-1989
APPLICATION NUMBER: 100,144
FILING DATE: 28-AUG-1987
                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR APPLICATION DATA:
                                                                                                                                                                        Query Match 63.4%;
Best Local Similarity 100.0%;
Matches 10; Conservative
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                                                                                                                                                                                                                                              1 TAPRSLRRSS 10
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                                                                                                                                                                                                                                                                                                                                      ULT 10
PCT-US94-12591-2
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Gaps

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GENERAL INFORMATION:
APPLICANT: IMMER, Hansuel1
APPLICANT: FORSEMANN, Wolf-Georg
APPLICANT: ADSEMANN, Wolf-Georg
APPLICANT: ALSESEN, Christian
APPLICANT: KLESSEN, Christian
TITLE OF INVENTION: PROCESS AND INTERMEDIATE PRODUCTS FOR
TITLE OF INVENTION: CARDIODILATIN FRAGMENTS, AND HIGHLY PURIS
TITLE OF INVENTION: CARDIODILATIN FRAGMENTS
NUMBER OF SEQUENCES: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: U.S.A.
ZIP: 2005-5701
COMPUTER REDABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC COMPATIBLE
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PATENTIN Release #1.0, Version #1.30
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,927
                                                                                                                                                                                                                                                                                                                                                                                                                         E: Nikaido, Marmelstein, Murray & Oram 655 Fifteenth Street N.W. Suite 330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         32 AA.
                    32 AA.
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Pred. No. 2.01e+01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
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TELECOMMUNICATION INFORMATION:
TELEPHONE: (202)638-5000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: W0 95/33769
FILING DATE: 14-DEC-1995
ATTORNEY/AGENT INFORMATION:
NAME: Kitts, Monica C.
REGISTRATION NUMBER: 36,105
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 15, Application PC/TUS9412591
                                                                                                                                                                              Sequence 4, Application US/08737927
Patent No. 5767239
                                                                                                                                         Sequence 4, Application US/08737927
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JENCE 32 AA; 3508 MW; 4652 CN;
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INFORMATIÓN FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 32 amino acids
TYPE: amino acids
                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local Similarity 100.0%;
Matches 10; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE ADDRESS:
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CITY: Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      linear
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STRANDEDNESS:
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PCT-US94-12591-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE
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  J 13
US-08-737-927-4
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  RESULT
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                                                                                                                                                                                                                                                                                  APPLICANT: Generitech, Inc.
APPLICANT: Lowe, David G.
APPLICANT: Cunningham, Brian C.
APPLICANT: Cunningham, Brian C.
APPLICANT: McDowell, Robert S.
APPLICANT: McDowell, Robert S.
APPLICANT: Burnier, John
TITLE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC PEPTIDES
CORRESPONDENCE ADDRESS:
ADDRESSER.
ADDRESSER.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM:
NEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 2:01e+01;
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SOFTWARE:
SOFTWARE:
SOFTWARE:
SURRENT APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION:
514
PRIOR APPLICATION:
APPLICATION DATA:
APPLICATION NUMBER:
NILING DATE:
11-APR-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
FILING DATA:
FRIOR APPLICATION DATA:
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REGISTRATION NUMBER: 36.775
REFERENCE/COCKET NUMBER: P0844P2C1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415/225-828
TELER: 910/371-7168
INFORMATION FOR SEQ ID NO: 18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 64;
                                                                                                                                                                                                                                                           Sequence 18, Application US/08470846A
Patent No. 5846932
GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
                                                                                                                                                                                                                      Sequence 18, Application US/08470846A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 08/152994
FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             32 AA; 3508 MW; 4652 CN;
                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 32 amino acids
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Best Local Similarity 100.0%;
Matches 10; Conservative
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6 TAPRSLRRSS 15
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                                                                                 JT 12
US-08-470-846A-18
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                                                                                 RESULT
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US-09-027-777B-2.rai

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ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
21P: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC computeR computeR compatible
COMPUTER: IBM PC computeR computeR computeR computeR computeR compute
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Pred. No. 2.01e+01;
0; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                            SUFTWARE: patin (Generech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/12591
FILLIG DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/15294
FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
NAME: Winter, DBTyl B:
REGISTRATION NÜMBER: 32,637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search completed: Wed Jun 16 13:21:08 1999 Job time : 7 secs.
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32 AA; 3589 MW; 4484 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REFERENCE/DOCKET NUMBER: 80
TELECOMMUNICATION INFORMATION
TELEPHONE: 415/225-1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
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Best Local Similarity 100.0%;
Matches 10; Conservative
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EENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC
FENTION: PEPTIDES
                                                                                                                 APPLICANT: Lowe, David
APPLICANT: Cundingham, Brian C.
APPLICANT: Cundingham, Brian C.
APPLICANT: Mobowell, Robert S.
APPLICANT: Burnier, John
TITLE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC
TITLE OF INVENTION: PEPTIDES
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: patin (Genentech)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01e+01;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCT/US94/12591
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Sequence 15, Application PC/TUS9412591 GENERAL INFORMATION:
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Lowe, David
Cunningham, Brian C.
Oare, David
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/152994
FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
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TELECOMMUNICATION:
TELEPHONE: 415/225-1249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 415/952-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 15:
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amino acid
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REGISTRATION NUMBER: 3
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Best Local Similarity 100.0%;
Matches 10; Conservative
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protein - protein database search, using Smith-Waterman algorithm

Wed Jun 16 13:19:02 1999; MasPar time 3.25 Seconds 185.026 Million cell updates/sec Run on:

Tabular output not generated.

>US-09-027-777B-2 (1-15) from US09027777B.pep 101

1 LRALLTAPRSLRRSS 15 Description: Perfect Score: Sequence:

PAM 150 Gap 15 Scoring table:

122810 segs, 40068593 residues Searched:

Post-processing: Minimum Match 0% Listing first 45 summaries

pir60 1:pirl 2:pir2 3:pir3 4:pir4 Database:

Mean 27.259; Variance 42.565; scale 0.640

Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Pred. No.	1.10e-07	1.10e-07	1.10e-07	4.64e-07	. 4.64e-07	4.64e-07	1.92e-06	1.92e-06	1.92e-06	4.96e-05	6.56e-01	9.77e-01	4.63e+00	4.63e+00	6.76e+00	9.83e+00	9.83e+00	9.83e+00	9.83e+00	9.83e+00	1.42e+01	1.42e+01	1.42e+01
Description	natriuretic peptide A	atrial natriuretic pe	natriuretic	atrial natriuretic pe	atrial natriuretic pe	atrial natriuretic pe	atrial natriuretic pe	atrial natriuretic fa	atrial natriuretic pe	atrial natriuretic pe	lethal(2)denticleless	hypothetical protein	hypothetical protein	reverse transcriptase	hypothetical protein	hypothetical protein.	hypothetical protein	transcription activat	beta-N-acetylhexosami	dnaK-type molecular c	hypothetical protein	beta-N-acetylhexosami	L-iduronidase (EC 3.2
TD	AWHU	AWBO	AWRB	AWDG	S13107	S14873	S14872	AWRT	AWMS	J00947	S51748	E69100	G70575	S55543	D64935	E65040	C64007	A40593	AOHUBA	301515	S26206 ·	148253	A42420
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Query Match Length DB	151	152	153	149	150	153	128	152	152	145	758	196	215	860	217	102	102	296	529	649	341	528	655
Query	100.0	100.0	100.0	97.0	97.0	97.0	94.1	94.1	94.1	87.1	65.3	64.4	60.4	60.4	59.4	58.4	58.4	58.4	58.4	58.4	57.4	57.4	57.4
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MSL leader peptide 2	hypothetical protein	ornithine carbamoyltr	hypothetical protein	genome RNA2 protein -	RNA2 protein - cucumb	hypothetical protein	ovostatin precursor -	tenascin precursor -	tenascin-C - human	erythromycin resistan	hypothetical protein	MSL leader peptide 3	DNA adenine methylase	probable translation	hypothetical protein	dnak-type molecular c	dnak-type molecular c	tenascin precursor -	hypothetical protein	alpha-amylase (EC 3.2	pisatin demethylase P
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57	57.	27	57	57	27	57	22	57	21	26	26	26	26	26	26	26	26	26	55	22	22
24	25	56	27	28	59	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

#title Nucleotide sequences of the human and mouse atrial

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115 LRALLTAPRSLRRSS 129
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                                                                                                                  alpha-human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 #authors Maki, M.; Parmentier, M.; Inagami, T.
#journal Biochem. Blophys. Res. Commun. (1984) 125:797-802
#title Cloning of genomic DNA for human atrial natriuretic factor.
#cross-references MUID:85096983
#accession 139459
                                                                                                                                                                                                                                                                                                       mRNA sequence for human cardiodilatin-atrial natriuretic factor precursor and regulation of precursor mRNA in rat
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natural and synthetic peptide sujected to kallikrein
proteolysis
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Hypertension (1985) 7:31-34
Molecular studies of the atrial natriuretic factor gene.
139460
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Seidman, C.E.; Bloch, K.D.; Zisfein, J.; Smit, J.; Homcy, C.J.; Duby, A.D.; Choi, E.; Graham, R.M.;
                                                                                #authors Kangawa, K.; Matsuo, H.
#Journal Biochem. Blophys. Res. Commun. (1984) 118:131-139
#title Purification and complete amino acid sequence of a attial natriuretic polypeptide (alpha-hANP).
#cross-references MUID:84128019
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            preliminary; translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ##residues 119-151,'RR' ##label RE2
##cross-references GB:K02044; NID:g178631; PID:g178632
NCE I39459
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                                                                                                                                                                                                                                                                                                                                                                                                                                   ##residues 1-151 ##label RES
##cross-references GB:M30262; NID:g180181; PID:g180182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ##residues 1-75 ##label RE3
##cross-references GB:K02399; NID:g178633; PID:g178634
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1-64,'D',66-151 ##label SEI ##cross-references GB:K02043 # A32733 # A427058
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Nature (1984) 312:656-658
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                                                                                                                                                                    #accession Askiss
##molecule_type protein
##molecule_type protein
124-151 ##label KAN
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#accession I58054
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#domain signal sequence #status predicted #label SIGN #product cardiodilantin #status predicted #label CDDN #product atrial alpha natriuretic peptide #status experimental #label ANPN #atsulfide_Donds #status experimental #nolecular-weight 16395 #checksum 3644
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Purification and sequence determination of bovine atrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #authors Vlasuk, G.P.; Miller, J.; Bencen, G.H.; Lewicki, J.A.
#journal Biochem. Biophys. Res. Commun. (1986) 136:396-403
#title Structure and analysis of the bovine atrial natriuretic peptide precursor gene.
#cross-references MUID:86215205
#accession A99124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         atrial natriluretic peptide precursor - bovine
ANP; atria: natriluretic polypeptide
#formal_name Bos primigenius taurus #common_name cattle
30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
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atrium; diuretic; hormone; natriuretic; osmoregulation
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#superfamily natriuretic peptide A precursor
atrium; diuretic; hormone; natriuretic; osmoregulation
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Nucleotide sequence of the gene encoding human atrial
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                                                                                                                                                                                        ##cross-references EMEL:X01471; NID:928690
T Cardiodilantin is a vasoconstrictor but natriuretic.
                                                                                                                translated from GB/EMBL/DDBJ
                                                                                                                                                                                                                                   GDB:NPPA; ANP; PND
##cross-references GDB:118727; OMIM:108780
#map_position 1p36-1p36
#introns
CLASSIFICATION
#swrch
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A90124; A93049; A24247; A26090
                         natriuretic factor precursor.
#cross-references MUID:85061627
#accession I37167
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##residues 123-150 ##label ONG
                                                                                                                                             ##molecule_type DNA
##residues 26-151 ##label RE5
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#cross-references MUID:85173941
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atrium; diuretic; hormone; natriuretic; osmoregulation
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#product gamma atrial natriuretic factor #status
predicted #label ANF\
#product alpha atrial natriuretic peptide #status
predicted #label ANP\
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                                                                                                                                                                                                                                                                                                                                                                                        S.; Imai, M.; Inuzuka, C.; Tawaragi, Y.; Nakazato,
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ANP; atrial natriuretic polypeptide
#formal_name Canis lupus familiaris #common_name dog
31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
                                                                        Gaps
                                                                                                                                                                                                                                                                                                               31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
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#length 153 #molecular-weight 16843 #checksum 7650
#length 152 #molecular-weight 16518 #checksum 7552
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Pred. No. 1.10e-07;
0; Mismatches 0; Indels
                                Length 152;
                                                                                                                                                                                                                                       precursor - rabbit
                                Score 101; DB 1; Length 152
Pred. No. 1.10e-07;
0; Mismatches 0; Indels
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Structure of dog a
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*accession A25302
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Matches 15: Con-
                                  Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 15; Conservative
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Nucleotide sequence of a porcine prepro atrial natriuretic peptide (ANP) cDNA.
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#product gamma atrial natriuretic factor #status
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The right auricle of the heart is an endocrine organ.

Cardiodilatin as a peptide hormone candidate.
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#Superfamily natriuretic peptide A precursor
atrium; diuretic; hormone; natriuretic; osmoregulation
                                                                      *product alpha atrial natriuretic peptide *status predicted *label ANP\
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1; Mismatches 0; Indels
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Pred. No. 4.64e-07;
1; Mismatches 0; Indels
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93.3%;
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ANF(1-33); ANF(2-33); ANF(8-33); atrial
natriuretic peptide; atriopeptin I: atriopeptin II;
auriculin A; auriculin B; preprocardionatrin
#formal_name Rattus norvegicus *common_name Norway rat
19-Feb-1984 *sequence_revision 15-Nov-1984 *text_change
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##cross-references EMBL:X88562; NID:949543; PID:949544
##experimental_source heart atria, adult
FICATION #superfamily natriuretic peptide A precursor
DS atrium; diuretic; hormone; natriuretic; osmoregulation
                                                                                                                                                                                     ##residues 1-153 ##label MAE ##cross-references EMBL.X58563; NID:g1008; PID:g1009 FICATION #superfamily natriuretic peptide A precursor # length 153 #molecular weight 16825 #checksum 960
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Pred. No. 1.92e-06;
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J. Biol. Chem. (1985) 260:4568-4571
The gene for rat atrial natriuretic factor.
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#length 128 #checksum 8741
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##molecule_type mRNA
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Best Local Similarity 93.3%;
Matches 14; Conservative
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Best Local Similarity 93.3%;
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#authors Atlas, S.A.; Kleinert, H.D.; Camargo, M.J.; Januszewicz, A.; Fauthors Sealey, J.E.; Laragh, J.H.; Schilling, J.W.; Lewicki, J.A.; Journal Nature (1984) 309:717-719
#title Purification, sequencing and synthesis of natriuretic and vascactive rat atrial peptide.
#cross-references MUD:84219796
#accession A93330
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Tibbetts, C.; Inagami, T.
Nature (1984) 399:722-734
Structure of rat atrial natriuretic factor precursor deduced
                                                                                                                                                        #authors Yamanaka, M.; Greenberg, B.; Johnson, L.; Seilhamer, J.;
Brewer, M.; Friedemann, T.; Miller, J.; Atlas, S.; Laragh,
J.; Lewicki, J.; Fiddes, J.

#journal Nature (1984) 309:719-722
#title Cloning and sequence analysis of the cDNA for the rat atrial
#cross-references MUID:84219797
#accession A01425
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#journal Science (1984) 223:67-69 **

#title purification and sequence analysis of bloactive atrial peptides (atriopeptins).
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Science (1984) 225:324-326
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Lazure, C.; Chretien, M.; Cantin, M.
Peptides (1988) 9:47-53
NH2-terminal fragment of rat pro-atrial natriuretic factor
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##residues 1-152 ##label SEI
##cross-references GB:K02062; GB:K02063; NID:g202899; PID:g202900
SNCE A93330
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the circulation: identification, radioimmunoassay
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##residues_25-28;'X',30-31,'X',33,'X',35-38 ##label THI
NNCE A20973
                                                                                                                                                                                                                                                                                                                                                                                                                         ##residues 1-152 ##label YAM
##cross-references EMBL:X00665; NID:955711; PID:955712
#accession A22570
##molecule_type DNA
##residues 1-152 ##label ARG
##cross-references GB:K02062; NID:g202899; PID:g202900
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##residues 126-149 ##label ATL
:NCE A94275
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##residues 127-149 ##label CUR
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#cross-references MUID:84219798
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#accession PT0061
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GENETICS

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part of this sequence, including the amino ends of three mature peptides, was confirmed by protein sequencing
Seidah, N.G.; Lazure, C.; Chretien, M.; Thibault, G.; Garcia,
R.; Cantin, M.; Genest, J.; Nutt, R.F.; Brady, S.F.; Lyle,
T.A.; Paleveda, W.J.; Colton, C.D.; Ciccarone, T.M.; Veber,
D.F.
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Proc. Natl. Acad. Sci. U.S.A. (1987) 84:2175-2179
Identification of atrial natriuretic factor gene transcripts
in the central nervous system of the rat.
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Protein Expr. Purif. (1990) 1.28-32
Purification of rat pro-atrial narriurelic factor: a
simplified scheme using reversed-phase high-performance
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Sakuragawa, Y.; Nakazato, H.; Fukuda, A.; Minamino, N.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Flynn, T.G.; Davies, P.L.; Kennedy, B.P.; de Bold, M.L.;
Bold, A.J.
Science (1985) 228:323-325
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                                                                                                                                                                   #journal Proc. Natl. Acad. Sci. U.S.A. (1984) #1:2640-2644
#title Amino acid sequence of homologous rat atrial peptides:
natriuretic activity of native and synthetic forms.
#cross-references MID: #41194062
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preliminary; translated from GB/EMBL/DDBJ
##molecule_type mRNA
##residues
1 1.52 ##label RE2
##cross-references EMBL:X01118; NID:955716; PID:955717
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##cross-references GB:K02062; NID:g202899; PID:g202900
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##residues 118-150 ##label SE2
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##residues 25-39 ##label BEL
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#product ANF(1-33) #status experimental #label ANFI\
#product ANF(2-33) #status experimental #label ANF2\
#product ANF(3-33) #status experimental #label ANF3\
#product cardionatrin I #status experimental #label CNI\
#product ANF(8-33) #status experimental #label ANF4\
#product ANF(8-33) #status experimental #label ANB\
#product auriculin B #status experimental #label AUB\
#product auriculin A #status experimental #label AUB\
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#product atriopeptin II #status experimental #label AT2\
#stalide bonds #status experimental
#length 152 #molecular-weight 16556 #checksum 7818
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*formal_name Mus musculus *common_name house mouse
31-Mar-1988 *sequence_revision 31-Mar-1988 *text_change
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predicted #label ANP,
#idisulfide_bonds #status predicted
#length 152 #molecular-weight 16645 #checksum 9384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #authors Seidman, C.E.; Bloch, K.D.; Klein, K.A.; Smith, J.A.; Seidman, J.G. Seidman, J.G. Science (1984) 226:1206-1209
#fitle Nucleotide sequences of the human and mouse atrial matriaretic factor genes.
#cross-references MUID:85065766
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Pred. No. 1.92e-06;
2; Mismatches 0; Indels
               40/3; 149/3 ** atriuretic peptide A precursor #superfamily natriuretic peptide A precursor
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13; Conservative
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larity 61.5%;
Conservative
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Best Local Similarity 53.3%;
Matches 8; Conservative
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                                                                                       atrial natriuretic peptide precursor - bullfrog
ANP; atrial natriuretic factor (ANF)
atrial natriuretic peptide-21; atrial natriuretic peptide-24
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lethal(2)denticleless - fruit fly (Drosophila melanogaster)
#formal_name Drosophila melanogaster
07-may-1995 #sequence_revision 01-Sep-1995 #text_change
24-Sep-1998
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#domain propeptide #status predicted #label PRO\
#product atrial natriuretic peptide-24 #status
experimental #label M24\
#product atrial natriuretic peptide-21 #status
experimental #label M21\
#status predimental #label M21\
#status #disulfide_bonds #status predicted
#fisulfide_bonds #status predicted
#length 145 #molecular-weight 15934 #checksum 1892
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submitted to the EMBL Data Library, December 1994
Identification of the novel Drosophila melanogaster heat
shock gene, lethal(2)denticleless (1(2)dt1), coding for
                                                                                                                                                                                                                                                                                                                                                               Biochem. Biophys. Res. Commun. (1988) 155:1338-1345
Identification of new atrial natriuretic peptides in frog
                                                                                                                            #formal_name Rana catesbelana #common_name bullfrog
30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change
20-Mar-1998
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##residues 122-145 ##label SAK
VT In mammals, several active peptides may be derived from the
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Pred. No. 4.96e-05;
1; Mismatches 2;
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##molecule_type mRNA
##molecule_type TI45 ##label KOJ
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Cole. S.T.: Brosch, R.; Parkhill, J.; Garnier, T.; Churcher, C.; Harris, D.; Gordon, S.V.; Eiglmeler, K.; Gas, S.; Barry III, C.E.; Tekaia, F.; Badcock, K.; Basham, D.; Brown, D.; Chillingworth, T.; Connor, R.; Davies, R.; Deviln, K.; Feltwell, T.; Gentles, S.; Hamlin, N.; Holroyd, S.; Hornsby, T.; Jagels, K.; Krogh, A.; McLean, J.; Moule, S.; Murphy, L.; Oliver, S.; Osborne, J.; Quail, M.A.;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Smith, D.E.; Doucette-Stamm, L.A.; Deloughery, C.; Lee, H.; Dubbis, J.; Aldredge, T.; Bashirzadeh, R.; Blakely, D.; Cook, R.; Gilbert, K.; Harrison, D.; Hoang, L.; Keagle, P. Lumm, W. Pothler, B.; Qiu, D.; Spadafora, R.; Vicaire, R. Wang, Y.; Wierzbowski, J.; Gibson, R.; Jiwani, N.; Caruso, A.; Bush, D.; Safer, H.; Patwell, D.; Prabhakar, S.; McDougall, S.; Shimer, G.; Goyal, A.; Pietrokovski, S.; Church, G. M.; Daniels, C.J.; Mao, J.; Rice, P.; Noelling, J.; Reeve, J.N.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ##cross-references GB:AE000930; GB:AE000666; NID:g2622872; PID:g2622878
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                                                                                                                                                                                                                                                                                                                                      hypothetical protein MH1746 - Methanobacterium thermoautorrophicum (strain Delta H) #formal_name Methanobacterium thermoautotrophicum 05-Dec-1997 #sequence_revision 05-Dec-1997 #text_change 65-Dec-1998 #formal_name Methanobacterium thermoautotrophicum 05-Dec-1997 #text_change 65-1000
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Complete genome sequence of Methanobacterium
thermoautotrophicum Delta H: functional analysis
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WD repeat homology *label WD1\
WD repeat homology *label WD2
#molecular-weight 82351 #checksum
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#length 196 #molecular-weight 21469 #checksum
                                                                                                   Score 66; DB 2; Length /Ju, Pred. No. 6.56e-01; .....atrhes 2; Indels
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#cross-references MUID:98037514
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##status
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 ACCESSIONS
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hypothetical protein b1756 - Escherichia coli (strain K-12)
#formal_mame Escherichia coli
12.5ep-1997 #sequence_revision 17.5ep-1997 #text_change
10.Jul-1998
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                reverse transcriptase - fruit fly (Drosophila melanogaster)
#formal_name Drosophila melanogaster
27-Oct-1995 #sequence_revision 03-Nov-1995 #text_change
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                                                                      Deciphering the biology of Mycobacterium tuberculosis from
                                                                                                                                                                                               ##residues 1-215 ##label COL
##cross-references GB:295324; GB:AL123456; NID:g3261760; PID:e315475;
PID:g2094839
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#journal Nucleic Acids Res. (1995) 23:1354-1358
#title BS a novel LINE-like element in Drosophila melanogaster.
#cross-references MUID:95273172
Rajandream, M.A.; Rogers, J.; Rutter, S.; Seeger, K.; Skelton, S.; Squares, S.; Sqares, R.; Sulston, J.E.; Taylor, K.; Whitehead, S.; Barrell, B.G.
                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##cross-references FlyBase:FBgn0000224
Y #length 860 #molecular-weight 98647 #checksum 4270
                                                                                                                                                                                                                                                                                                            #length 215 #molecular-weight 23102 #checksum 4474
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                                                                                        the complete genome sequence #cross-references MUID:98295987
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##note the nucleotide sequence v
Library, February 1994
                                                                                                                                                                                                                                                                                                                                                Score 61;
Pred. No. '
               Skelton, S.; Squares, S.
Taylor, K.; Whitehead, S.
Nature (1998) 393:537-544
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##cross-references EMBL:X77571
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ilarity 53.3%;
Conservative
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ilarity 57.1%;
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| LRALLTAPRSLRRSS 15
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Blattner, F.R.; Plunkett III, G.; Bloch, C.A.; Perna, N.T.; Burland, V.; Riley, M.; Collado-Vides, J.; Glasner, J.D.; Rode, C.K.; Mayhew, G.F.; Gregor, J.; Davis, N.W.; Kirkpatrick, H.A.; Goeden, M.A.; Rose, D.J.; Mau, B.; Shao,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                          ##residues 1-217 ##label BLAT ##cross-references GB:AE000270; GB:U00096; NID:g1788045; PID:g1788053; UWGP:b1756
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #domain ATP-binding cassette homology #label ABC\
#region nucleotide-binding motif A (P-loop)
#length 217 #molecular-weight 24016 #checksum 7949
                                                                                                                                                                      #title The complete genome sequence of Escherichia col1 K-12.
#cross-references MUID:97426617
                                                                                                                                                                                                                                                          preliminary; nucleic acid sequence not shown; translation not shown
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Pred. No. 6.76e+00;
3; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                          ##experimental_source strain K-12, substrain MG1655
FICATION #Superfamily ATP-binding cassette homology
DS P-loop
                                                                                                                                     Science (1997) 277:1453-1462
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Matches 7; Conservative
                                                                                                                                                                                                                                                                                                               ##molecule_type DNA
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Research Unit. Release 3.1A John F. Collins, Biocomputing Research Un. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd protein · protein database search, using Smith-Waterman algorithm MPsrch_pp

MasPar time 2.25 Seconds 188.112 Million cell updates/sec Wed Jun 16 13:19:41 1999; Run on:

Tabular output not generated.

>US-09-027-777B-2 (1-15) from US09027777B.pep 101 Description: Perfect Score: Title:

1 LRALLTAPRSLRRSS 15 Sequence:

PAM 150 Gap 15 Scoring table:

77977 seqs, 28268293 residues Searched:

summaries Minimum Match 0% Listing first 45 Post-processing:

swiss-prot37 1:swissprot Database:

Mean 28.009; Variance 37.502; scale 0.747 Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Pred. No.	.41e-09	.41e-09	.41e-09	.25e-08	.25e-08	.25e-08	.41e-08	.41e-08	6.41e - 08	.68e-06	.38e-01	.96e+00	.96e+00	.96e+00	.96e+00	.96e+00	.96e+00	.96e+00	.51e+00	,51e+00	4.51e+00	6.82e+00	6.82e+00
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Des	ATR	LET	HYP	HYP	HYP	URE	NOD	BET	HEAT	HYP	BET	ALP	ORN	PRO									
ឧ	ANF_BOVIN	ANF_HUMAN	ANF_RABIT	ANF_CANFA	ANF_PIG	ANF_HORSE	ANF_CAVPO	ANF_MOUSE	ANF_RAT	ANF_RANCA	L2DT_DROME	YFJF_ECOLI	YFJF_VIBCH	YFJF_HAEIN	URER_ECOLI	NOLL_RHISN	HEXA_HUMAN	HS70_CHLRE	YGL1_STRCO	HEXA_MOUSE	IDUA_CANFA	OTCC_PSEAE	V2A CMVNT
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Length	. 152	153	153	149	150	153	128	152	152	145	758	96	101	102	296	366	529	649	341	528	655	335	857
% Query Match	100.0	100.0	100.0	97.0	97.0	97.0	94.1	94.1	94.1	87.1	65.3	58.4	58.4	58.4	58.4	58.4	58.4	58.4	57.4	57.4	57.4	56.4	56.4
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24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

	THE COLUMN CARRATED
3 E E E E	EMBL; M13145; G162666; PIR; A24247; ÄMBO. PROSITE; PSO0263; NATRIURETIC_PEPTIDE; 1. PRAM; PRODAIZ; ANP; 1.
ΚM	VASOACTIVE; SIGNAL.

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Molecular cloning and characterization of DNA sequences encoding rat
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                                                                                                    SEQUENCE OF
MEDLINE: 850
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SEQUENCE
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13-AUG-1987 (REL. 05, LAST SEQUENCE UPDATE)
15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE OF 1-151 FROM N.A. MEDLINES 84219799.
OIKAWA S., IMAI M., UENO A., TANAKA S., NOGUCHI T., NAKAZATO H., KANGAWA K., FUKUDA A., MATSUO H.;
"Cloning and sequence analysis of cDNA encoding a precursor for human atrial natriuretic polypeptide.";
NATION OF THE STATE OF THE S
                          ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP)
                                                                                                                                                                                    Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAKAYAMA K., OHKUBO H., HIROSE T., INAYAMA S., NAKANISHI S.; "mRNA sequence for human cardiodilatin-atrial natriuretic factor precursor and regulation of precursor mRNA in rat atria."; NATURE 310:699-701(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDLINE; 85065766.
SEIDWAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDWAN J.G.,
"Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ZIVIN R.A., CONDRA J.H., DIXON R.A.F., SEIDAH N.G., CHRETIEN M.
NEMER M., CHAMBERLAND M., DROUIN J.;
                                                                                                                                                                                 ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
                                                                                                                               Length 152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NEMER M., CHAMBERLAND M., SIROIS D., ARGENTIN S., DROUIN DIXON R.A.F., ZIVIN R.A., CONDRA J.H.; "Gene Structure of human cardiac hormone precursor, pronatriodilatin."; NATURE 312:654-656(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SREENBERG B.D., BENCEN G.H., SEILHAMER J.J., LEWICKI J.A.
                                                                                                                                                                                 0; Indels
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                                                                                                                            Score 101; DB 1; I
Pred. No. 2.41e-09;
0; Mismatches 0;
     24
150 ATRIAL NATRIURETI
145
16518 MW; CF200882 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                           153 AA
                                                                                                                                                                                                                                                                                                                                                                                        PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (PREPRONATRIODILATIN)
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                                                                                                                            Query Match
Best Local Similarity 100.0%;
Matches 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     factor precursor.";
ATURE 312:656-658(1984).
                                                                                                                                                                                                                                   114 LRALLTAPRSLRRSS 128
                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                   1 LRALLTAPRSLRESS 15
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HOMO SAPIENS (HUMAN)
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123 1
129 1
152 AA;
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  SIGNAL
PEPTIDE
DISULFID
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -! - THE HUMAN GENOME CONTAINS 2 DIFFERENT PREPRONATRIODILATIN GENES ONE CODES FOR 2 ARG RESIDUES AT THE C-TERMINUS THAT ARE CLEAVED TO FORM THE MATURE PEPTIDE, WHILE THE OTHER ENDS IN A TERMINATION CODON IMMEDIATELY AFFER THE LAST CODON OF THE MATURE PEPTIDE.
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BY SIMILARITY.
MISSING (IN ONE OF THE TWO GENES).
C24A68AF CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -:- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY REY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                      Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDLINE; 94318633.
FAIRBROTHER W.J., MCDOWELL R.S., CUNNINGHAM B.C.;
"Solution conformation of an arrial natriuretic peptide variant
selective for the type A receptor.";
BIOCHEMISTRY 33:8897-8904(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRUCTURE BY NMR OF 124-151 MUTANT SELECTIVE FOR NPR-C RECEPTOR
                                                                                                           MEDLINE; 85096983.
MAKI M., PARKENIER M., INAGAMI T.;
"Cloning of genomic DNa for human atrial natriuretic factor.";
BIOCHEM. BIOPHYS. RES. COMMUN. 125:797-802(1984).
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Pred. No. 2.41e-09;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                    natriuretic polypeptide (alpha-hANP).";
BIOCHEM. BIOPHYS. RES. COMMUN. 118:131-139(1984).
and human atrial natriuretic factors.";
PROC. NATL. ACAD. SCI. U.S.A. 81:6325-6329(1984)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SIGNAL; 3D-STRUCTURE.
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EMBL; X02558; G825625; JOINED.
EMBL; K02043; G178630; -.
EMBL; X01471; E27452; ALT_SEQ.
EMBL; K02044; G178632; -.
EMBL; M30262; G180182; -.
EMBL; K02399; G178634; -.
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151 r
146
153 k,
16708 MW; '
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Best Local Similarity 100.0%;
Matches 15; Conservative
                                                                                    FROM N.A.
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152 1
153 AA;
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01-APR-1988 (REL. 07, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                              07, LAST SEQUENCE UPDATE)
34, LAST ANNOTATION UPDATE)
: FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   reen the Swiss Institute of Bioinformatics and the EMBL outstati
European Bioinformatics Institute. There are no restrictions on
by non-profit institutions as long as its content is in no
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-!- FUNCTION: ATRIAL NATRIAL NATRI
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EUKARXOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
                                                                                                                                                                                                                      ORYCTOLAGUS CUNICULUS (RABBIT).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
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Pred. No. 2.41e-09;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     use by non-profit institutions as long amodified and this statement is not removed.
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0; Mismatches
                       153 AA
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PFAM; PF00212; ANP; 1.
VASOACTIVE; SIGNAL.
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                       STANDARD;
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                                                                         07,
                                                                                                                     01-OCT-1996 (REL. 3
ATRIAL NATRIURETIC
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                                               P07500;
01-APR-1988
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                                                                                                01-APR-1988
                    ANF_RABIT
P07500;
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RESULT
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01-CCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CELL TISSUE RES. 238:425-430(1984).
-!- FUNCTION: APRIAL NATRIUREFIC FACTOR (ANF) IS A POTENT VASCACTIVE SUBSTANCE: SYNTHESIZED IN MAMBALIAN ATRIA AND IS THOUGHT TO PLAY A KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-HEART RICHT ATRIUM;
MEDLINE; 85124661.
FORSSAMN W.G., BIRR C., CARLQUIST M., CHRISTMANN M., FINKE R.,
HENSCHEN A., HOCK D., KIRCHHEIM H., KREYE V., LOTTSPEICH F., METZ J.,
                                                                                                                                                                                                                                                                                                                                                                 ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDELINE; 91067478.
MAEGERT H.J., APPELHANS H., GASSEN H.G., FORSSMANN W.G.;
"Nucleotide sequence of a porcine prepro atrial natriuretic peptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                   A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -i- a DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HENSCHEN A., HOCK D., KIRCHHEIM H., KREYE V., LOTTSPEICH F., MUTT V., REINNECKE M.;
"The auxicular myocardiocytes of the heart constitute an endo "The auxicular myocardiocytes of a porcine cardiac peptide hormone, organ. Characterization of a porcine cardiac peptide hormone,
                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 98; DB 1; Le
Pred. No. 1.25e-08;
                                                                                                                                                                                                                                                                                                                                                                                                         15819 MW; D4F3A6CF CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 150 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
                                                                                                                                                                                                                                                                                          PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1. PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                   or send an email to license@isb-sib.ch)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WICLEIC ACIDS RES. 18:6704-6704(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-MAR-1992 (REL. 21, CREATED)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PISSUE-HEART RIGHT ATRIUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                             97.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   14; Conservative
                                                                                                                                                                                                                                                        EMBL; M12045; G163901; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      113 LRALLAAPRSLRRSS 127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1 LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                                                                                                                                                  23
                                                                                                                                                                                                                                                                                                                                VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                         149 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
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                                                                                                                                                                                                                                                                             A25302;
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                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
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P24259;
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US-09-027-777B-2.rsp

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115 LRALLAAPRSLRRSS 129
                                                                                                            ANF_CAVPO
P27596;
01-AUG-1992 (
01-AUG-1992 (
                                                                                                                                                                                                                                                                                                                                                                                                                                            ACTIVITY
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DISULFID
SEQUENCE
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PEPTIDE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PEPTIDE)
                                                                                                                                                                                                           CARDIODILATIN-RELATED PEPTIDE (CDP)
(BY SIMILARITY).
ATRIAL NATRURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
4 FF67B94 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MAEGERT H.J., RICHTER R., SCHMAEDING G., FORSSMANN W.G.;
SUBNITTED (MAR-1991) TO EMBL/GENBANK/DDBJ DATA BANKS.
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
FESDSF4A CRC32;
                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-AUG-1992 (REL. 23, CREATED)
01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIUGETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC (ANP) (PREPRONATRIODILATIN).
                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EQUUS CABALLUS (HORSE).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
PERISSODACTYLA; EQUIDAE; EQUUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 153;
                                                                                                                                                                                                                                                                                                           Score 98; DB 1; Length 150;
Pred. No. 1.25e-08;
1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 98; DB 1; Len
Pred. No. 1.25e-08;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIR; S14873; S14873.
PROSITE: PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212; ANP; 1.
VASOACTIVE: SIGNAL.
                                                                                                                               PIR; S13107; S13107.
PROSITE; PSO0263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; AND: 1.
VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-ADAMITICUS; TISSUE-HEART ATRIUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         POTENTIAL.
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16351 MW;
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llarity 93.3%;
Conservative
                                                                                                                                                                                                                                                                                                           97.0%;
larity 93.3%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                           114 LRALLAAPRSLRRSS 128
                                                                                                                                                                                                                                                                                                                                                                                          EMBL; X54669; G1884; -.
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                                                                                                                                                                                                                                             123
129
150 AA;
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153 AA;
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Best Local Similarity
Matches 14; Conserv
                                                                                                                                                                                                                                                                                                                          Local Similarity
les 14; Conser
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P27104;
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DISULFID
SEQUENCE
                                                                                                                                                                                                                                                             DISULFID
SEQUENCE
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                                                                                                                                                                                                                                               PEPTIDE
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                                                                                                                                                                                                                                                                                                                                             Matches
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Gaps

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Indels

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P05123.
13-AUG-1987 (REL. 05, CREATED)
13-AUG-1987 (REL. 05, LIAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LIAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN).
                                                                                                                                                                                                                                                      ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CARDIODILATIN-RELATED PEPTIDE (CDP).
ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
2C2F552D CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  TISSUE-HEART ATRIUM;
MAEGERT H.J., HANKE M., SCHMEDING G., TEUTEBERG K.,
SCHULZ-KNRAPPE P., FORSEMANN W.G.;
SCHULZ-KNRAPPE P., TORSEMANN W.G.;
SUBMITTED (MAR-1991) TO EMBL/GENBANK/DDBJ DATA BANKS.
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANT) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN NAMABLIAN AND IS THOUGHT TO PLAY A
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- DEVELOPMENTAL STAGE: ADULT.
-!- A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
-!- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
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RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
                                                                                                                                                                                                                                                                                                                                                    EUKARYOTA; METAZÓA; CHÓRDATÀ; VERTEBRATA; MAMMALIA; EUTHERIA.
RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 95; DB 1; Le
Pred. No. 6.41e-08;
0; Mismatches 1
                                                                                                                                                                       23, CREATED)
23, LAST SEQUENCE UPDATE)
34, LAST ANNOTATION UPDATE)
                                                                                                                           128 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PIR; S14872; S14872.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                                                                             (ANP) (PREPRONATRIODILATIN) (FRAGMENT)
                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MW.
                                                                                                                                                                                                                                                                                                                               CAVIA PORCELLUS (GUINEA PIG).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity 93.3%; 14; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   121
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                                                                                                                        STANDARD;
1 LRALLTAPRSLRRSS 15
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105 1
128 AA;
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SEQUENCE FROM N.A.
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SEQUENCE OF 38-152 FROM N.A.
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SEQUENCE FROM N.A. MEDLINE; 84256178.
                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A. MEDLINE; 88109092.
                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE; 85182558
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                                                                                          SEQUENCE FROM N.A
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                                                                                                                                                                                                                                                                                                                                                                                   FLYNN T.G.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE;
                                                                                                     MEDLINE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                21-JUL-1986 (REL. 01, CREATED)
21-JUL-1986 (REL. 07, LAST SEQUENCE UPDATE)
15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN) [CONTAINS: AURICULINS; ATRIOPEPTINS].
                               factor genes.";
SCIENCE 226:1206-1209(1984).
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A
KEY FOLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                  A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Structure of rat atrial natriuretic factor precursor deduced from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Σ.
          SEIDMAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDMAN J.G.; "Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE: 84219798.
MAKI M., TAKAYANAGI R., MISONO K.S., PANDEY K.N., TIBBETTS C.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MEDLINE; 84219797.
YAMANAKA M., GREENBERG B., JOHNSON L., SEILHAMER J.J., BREWER
FRIEDEMANN T., MILLER J., ATLAS S.A., LARAGH J., LEWICKI J.,
FIDDES J.C.;
                                                                                                                                                                                                                                                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           'Cloning and sequence analysis of the cDNA for the rat atrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EUKARYOTA; METAZOA; CHÓRDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
                                                                                                                                                                                                                                                                                                            AURICULIN A (BY SIMILARITY).
AURICULIN B (BY SIMILARITY).
ATRIOPEPTIN I (BY SIMILARITY).
ATRIOPEPTIN II (BY SIMILARITY).
SIMILARITY.
S163CB23 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                         Length 152;
                                                                                                                                                                                                                                                                                                                                                                                                     red. No. 6.41e-08;
2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                          Score 95; DB 1;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             152 AA.
                                                                                                                                                                                                                                                                PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                       Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       natriuretic factor precursor.";
NATURE 309:719-722(1984).
                                                                                                                                                                                                                                                                                                                                                                     16645 MW;
                                                                                                                                                                                                                                                                                                                                                                                          Query Match 94.1%;
Best Local Similarity 86.7%;
Matches 13; Conservative
                                                                                                                                                                                                                              EMBL; K02781; G387099; -
                                                                                                                                                                                                                                                                                                                                                                                                                                       114 LRALLAGPRSLRRSS 128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CDNA sequence.";
NATURE 309:722-724(1984)
                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RATTUS NORVEGICUS (RAT)
                                                                                                                                                                                                                                                     MGI:97367; NPPA.
                                                                                                                                                                                                                                                                                                                      126
127
127
129
159 AA;
                                                                                                                                                                                                                                                                                        VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE FROM N.A.
                                                                                                                                                                                                                                           PIR; A29370; AWMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAGAMI T.;
                                                                                                                                                                                                                                                                                                                                   PEPTIDE
PEPTIDE
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANF_RAT
P01161;
                                                                                                                                                                                                                                                                                                              PEPTIDE
                                                                                                                                                                                                                                                                                                                        PEPTIDE
                                                                                                                                                                                                                                                                                                 SIGNAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT
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SENDING: ACCOUNT OF THE STATEMENT OF THE
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the Swiss Institute of Bioinformatics
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                                                                                                                                                                                                                                                                                                                 DISULFID
                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REPEAT
REPEAT
REPEAT
                                                                                                                                                                                                                                                                        SIGNAL
g
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ö
                                                                                                                                                                                                                          This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMED outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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                                                                                                                                                                 A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ó
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     01-NOV-1990 (REL. 16, CREATED)
01-MAR-1992 (REL. 21, LAST SEQUENCE UPDATE)
01-FEB-1995 (REL. 31, LAST ANNOMATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                 "NH2-terminal fragment of rat pro-atrial natriuretic factor in the circulation: identification, radioimmunoassay and half-life."; peprides 9:47-53(1988).
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AMPHIBIA; BATRACHIA; ANURA;
RANA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TISSUE-HEART;
MEDILINE; 89025806.

SARATA J., KANGWAN, K., MATSUO H.;
"Identification of new atrial natriuretic peptides in frog heart.";
BIOCHEM. BIOCHYS. RES. COMMUN. 155:1338-1345(1988).
-1- FUNCTION: VASCACTIVE ACTIVITY. HAS A CGMP-STIMULATING ACTIVITY.
-1- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 95; DB 1; Length 152;
Pred. No. 6.41e-08;
2; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KOJIMA M.;
SUBMITTED (XXX-1992) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             16556 MW; 2D424B75 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ATRIOPEPTIN III
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               145 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATRIOPEPTIN I.
ATRIOPEPTIN II
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RANA CATESBEIANA (BULL FROG)
EUKARYOTA: METAZOA: CHORDATA; VERTEBRATA:
NEOBATRACHIA; RANOIDEA; RANIDAE; RANINAE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PROSITE; PSO0263; NATRIURETIC_PEPTIDE; 1. PFAM; PF00212; ANP; 1. VASSACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 95;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  94.1%;
86.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Best Local Similarity 86.7% Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                EMBL; M15868; G202904; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     114 LRALLAGPRSLRRSS 128
                                                                                                                                                                                                                                                                                                                                                                                                                   X00665; G55712; -. K02062; G202900; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M27498; G202906;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 122-145.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        A44190.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PIR; A22570; AWRT
PIR; A44190; A441
PROSITE; PS00263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          T 10
ANF_RANCA
P18909;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PEPTIDE
PEPTIDE
PEPTIDE
PEPTIDE
DISULFID
SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SIGNAL
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the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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"Identification of a novel Drosophila melanogaster heat-shock gene,
"Identification of a novel Drosophila melanogaster heat-shock gene,
"Identification of a novel Drosophila melanogaster heat-shock gene,
GENE 171:163-170(1996)
-!- SUBCELLULAR LOCATION: CYTOPLASMIC (POTENTIAL)
-!- TISSUE SPECIFICITY IN EXPRESSED DURING EMBRYOGENESIS
WITH NO SIGN OF TISSUE SPECIFICITY IN EXPRESSION UP TO STAGE 17-
-!- DEVELOPMENTAL STAGE: DETECTED AT ALL DEVELOPMENTAL STAGES. THE
EXTREMELY HIGH LEVEL OF TRANSCRIPTION DETECTED IN THE EARLY EMBRYO
AND IN ADULTS IS CAUSED BY MATERNAL MESSAGE.
-!- INDUCTION: BY HEAT SHOCK.
-!- SIMILARITY: CONTAINS 6 WD REPEATS (TRP-ASP DOMAINS).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     15-JUL-1998 (REL. 36, CREATED)
15-JUL-1998 (REL. 36, LAST SEQUENCE UPDATE)
15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
16-JUL-10PB (REL. 36, LAST ANNOTATION UPDATE)
16-JUL-10PB (REL. 36, LAST ANNOTATION UPDATE)
16-JUL-10PB MELANOGASTER (FRUIT FLY)
16-JUL-10PB METALONA; ARTHROPODA; TRACHEATA; HEXAPODA; INSECTA;
16-JUL-19PB METALONA; ARTHROPODA; TRACHEATA; HEXAPODA; INSECTA;
16-JUL-19PB METALONA; ARTHROPODA; TRACHEATA; HEXAPODA; INSECTA;
16-JUL-19PB METALONA; ARTHROPODA; MUSCOMORPHA; EPHYDROIDEA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATRIAL NATRIURETIC FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 88; DB 1; Ler
Pred. No. 2.68e-06;
1; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               141
15934 MW; 6A1FA352 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     758 AA
                                                                                                                                                                                                                                                       PIR; A31510; A31510.
PIR; JQ0947; JQ0947.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                            POTENTIAL
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WD3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       <u>8</u>
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PROSITE; PS00678; WD_REPEATS; 1.
PFAM; PF00400; G-beta; 4.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HEAT SHOCK; REPEAT; WD REPEAT 88 118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        87.18;
                                                                                                                                                                                                                      EMBL; D01043; D1001314; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      80.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DROSOPHILIDAE; DROSOPHILA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; X83414; G603539; -.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   109 LRELLNAPRSMRRSS 123
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                                                                                                                                                             PFAM; PF00212; ANP; 1.
VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             145 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Local Similarity Matches 12; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                  Gaps
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MEDLINE; 97426617.
BLATTNER F.R., PLUNKETT G. III, BLOCH C.A., PERNA N.T., BURLAND V.,
RILEY M., COLLADO-VIDES J., GLASNER F.D., RODE C.K., MAYHEW G.F.,
GREGOR J., DANIS N.W., KIRKPATRICK H.A., GOEDEN M.A., ROSE D.J.,
MAU B., SHAO Y.;
                                                                                                                                                                                                                                                                                                                                                                                                                                     T 12
PYSTE_ECOLI STANDARD; PRT; 96 AA.
P$2119; P76603;
01-0CT-1996 (REL. 34, CREATED)
01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
01-NOV-1997 (REL. 35, LAST ANDATION UPDATE)
HYPOTHETICAL 10.8 KD PROTEIN IN SMPA-SMPB INTERGENIC REGION (F102).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AIBA H., BABA T., FUJITA K., HAYASHI K., HONJO A., HORIUCHI T., IKEMOTO K., INADA T., ISONO K., ISONO S., ITOH T., KANAI K., KASAI H., KASHIMOTO K., KIM S., KIMURA S., KITAKAWA M., MAKIMO K., MASUDA S., MIKI T., MIZOBUCHI K., MORI H., MOTOWURA K., NAKAMURA Y., NASHIMOTO H., NISHIO Y., OSHIMA T., SANPEI G., SEKI Y., TAGAMI H., TAKEMOTO Y., WADA C., YAMAMOTO Y., YANO M.:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STRAIN-K12;
MEDLINE: 95023883.
KOMINE Y., KITABATAKE M., YOKOGAWA T., NISHIKAWA K., INOKUCHI H.;
"A tRNA-like structure is present in 10Sa RNA, a small stable RNA from Escherichia coli.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ESCHERICHIA COLI.
BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; ENTEROBACTERIACEAE;
ESCHERICHIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROC. NATL. ACAD. SCI. U.S.A. 91:9233-9227(1994).
-!- SIMILARITY: STRONG, TO H.INFLUENZAR H10395.
                                                                                                                                                                                                                                               ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   "The complete genome sequence of Escherichia coli K-12."; SCIENCE 277:1453-1474(1997).
                                                                                                                                                                                     Score 66; DB 1; Length 758;
Pred. No. 1.38e-01;
3; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SUBMITTED (JAN-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
WD5.
WD6.
POLY-ALA.
POLY-THR.
; 8F37E148 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  10789 MW; F8707FB4 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; D12501; -; NOT_ANNOTATED_CDS.
HYPOTHETICAL PROTEIN.
SEQUENCE 96 AA: 10789 MW. FORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; U36840; G1033114; ALT_INIT.
EMBL; AE000347; G1788971; ALT_INIT.
                                                                                                                                   82352 MW;
                                                                                                                                                                                     65.3%;
llarity 61.5%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; D90888; G1800023; -.
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                                                                                                                                                                                                                                                                                                  425 LRDLESTPRSLKR 437
                                                                                                                                                                                                                                                                                                                                || | ::||||:|
| LRALLTAPRSLRR 13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
STRAIN-K12 / MG1655;
                                                                                                                                                                                                              Best Local Similarity
Matches 8: Conserv
                                                                                                                                   758 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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                                                                                                            DOMAIN
SEQUENCE
                                                                                                                                                                                          Query Match
     REPEAT
                                                       DOMAIN
                                                                                      DOMAIN
     FFFF8
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                                                                                                                                                                                                                                                                                                                                                                                   01-OCT-1996 (REL. 34, CREATED)
01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST SEQUENCE UPDATE)
HYPOTHETCAL 11.6 KD PROTEIN IN SMPA-SMPB INTERGENIC REGION (ORF101)
VIBRIO CHOLERAE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FLEISCHMANN R.D., ADAMS M.D., WHITE O., CLAYTON R.A., KIRKNESS E.F., KERLAVAGE A.R., MERRICK J.M., MCKENNEY B.A., MERRICK J.M., MCKENNEY R., SUTTON G., FITZHUGH W., FIELDS C.A., GOCAYNE J.D., SCOTT J.D., SHIRLEY R., LU L.-I., GLODEK A., KELLEY J.M., WEIDMAN J.F., PHILLIPS C.A., SPRIGGS T., HEDBLOM E., COTTON M.D., UTTERBACK T.R., HANNA M.C., NGUYEN D.T., SAUDEK D.M., BRANDON R.C., FINE L.D., FRÄTCHMAN J.L., FUHRWANN J.L., GEOGHAGEN N.S.M., GENEHM C.L., MCDONALD L.A., SMALL K.V., FRASER C.M., SMITH H.O.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-OGAWA 395;
KOVACH M.E., HUGHES K.J., HARKEY C.W., EVERISS K.D., SHAFFER M.D.,
PETERSON K.M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; VIBRIONACEAE; VIBRIO
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BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; PASTEURELLACEAE;
HAEMOPHILUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VENTER J.C.; "whole-genome random sequencing and assembly of Haemophilus influenzae Rd.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 59; DB 1; Length 101; Pred. No. 2.96e+00; 4; Mismatches 2; Indels
   Length 96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUBMITTED (OCT-1995) TO EMBL/GENBANK/DDBJ DATA BANKS.
Score 59; DB 1; L
Pred. No. 2.96e+00;
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01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
HYPOTHETICAL PROTEIN H10395.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      102 AA.
                                                               4; Mismatches
                                                                                                                                                                                                                                                                                                                          101 AA.
                                                                                                                                                                                                                                                                                                                       PRT;
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Ouery Match 58.4%;
Best Local Similarity 50.0%;
Matches 6; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; U39068; G1100886; -. HYPOTHETICAL PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 50.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   77 RPLLADPKEIRR 88
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2 RALLTAPRSLRR 13
                                                                                                                               76 RPLIADPKELRR 87
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STRAIN-RD / KW20;
MEDLINE; 95350630.
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P43994;
                                                                                                                                                                                                                                                                                            13
F_VIBCH
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                                                                                                                               This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation her European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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D'ORAZIO S.E.F., COLLINS C.M.;
D'ORAZIO S.E.F., COLLINS C.M.;
"The plasmid-encoded urease gene cluster of the family
Enterobacteriaceae is positively regulated by UreR, a member of the
AraC family of transcriptional activators.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -! - SIMILARITY: BELONGS TO THE ARAC/XYLS FAMILY OF TRANSCRIPTIONAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       J. BACTERIÓL. 175:3459-3467(1993).
-i- FUNCTION: POSITIVE REGULATOR OF THE EXPRESSION OF THE UREASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; ENTEROBACTERIACEAE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PIR: A40593; A40593.
PROSITE: PS00041; HTH.ARAC_FAMILY_1; 1.
PROSITE: PS01124; HTH_ARAC_FAMILY_2; 1.
PFAM: PF00165; HTH_2: 1.
PFAM: PF00165; PFAM: P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 58.4%; Score 59; DB 1; Length 296; Best Local Similarity 58.3%; Pred. No. 2.96e+00; Matches 7; Conservative 4; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ouery Match 58.4%; Score 59; DB 1; Length 102; Best Local Similarity 50.0%; Pred. No. 2.966+00; Matches 6; Conservative 4; Mismatches 2: InAble
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         102 AA; 11584 MW; 1B2632C6 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-OCT-1993 (REL. 27, CREATED)
01-OCT-1993 (REL. 27, LAST SEQUENCE UPDATE)
101-OVY-1997 (REL. 35, LAST ANNOTATION UPDATE)
UREASE OPERON TRANSCRIPTIONAL ACTIVATOR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                296 AA
SCIENCE 269:496-512(1995).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EMBL; U32723; G1573377; -. TIGR; H10395; -.
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2 RALLTAPRSLRR 13
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URER_ECOLI
P32326;
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Gaps

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192 KALFTTPSTLRR 203

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2 RALLTAPRSLRR 13
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Search completed: Wed Jun 16 13:19:48 1999 Job time: 7 secs.

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Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed Jun 16 13:20:04 1999; MasPar time 4.58 Seconds 178.668 Million cell updates/seq Run on:

Tabular output not generated.

>US-09-027-777B-2 (1-15) from US09027777B.pep 101 Title: Description: Perfect Score:

1 LRALLTAPRSLRRSS 15 Seguence:

PAM 150 Gap 15 Scoring table:

179066 seqs, 54579741 residues Searched:

Minimum Match O% Listing first 45 summaries Post-processing:

sptremb19 Database:

1:sp_archea 2:sp_bacteria 3:sp_fungi 4:sp_human 5:sp_invertebrate 6:sp_mammal 7:sp_mhc 8:sp_organelle 5:sp_phage 10:sp_plant 11::sp_rodent 12:sp_unclassified 13:sp_vertebrate 14:sp_virus

Mean 26.978; Variance 38.734; scale 0.697 Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Pred. No.	1.40e-08	1.40e-08	5.26e-07	5.20e-01	1.22e+00	2.83e+00	2.83e+00	2.83e+00	4.28e+00	4.28e+00	4.28e+00	6.44e+00	6.44e+00	6.44e+00	6.44e+00	6.44e+00	6.44e+00	6.44e+00	9.64e+00	9.64e+00
Description	ATRIAL NATRIURETIC FAC	ATRIAL NATRIURETIC PEP	CARDIODILATIN, ATRIAL	CYTOCHROME C-TYPE BIOG	VALYL TRNA SYNTHETASE.	HYPOTHETICAL 23.1 KD P	70-KDA HEAT SHOCK PROT	GLUCOSYLTRANSFERASE I	INNER MEMBRANE PROTEIN	KINASE.	ORF UL150.	R12E2.11 PROTEIN.	MAP KINASE KINASE ALPH	MAP KINASE KINASE 5.	ANGIOTENSIN/VASOPRESSI	ENVELOPE GLYCOPROTEIN.	ENVELOPE GLYCOPROTEIN.	SEMAPHORIN G PRECURSOR	MAP KINASE KINASE 4.	F58G6.1 PROTEIN.
ΩI	913766	046540	029130	027778	077443	006308	P97981	033426	P76909	052554	068404	061190	096517	080398	075434	073295	073299	060519	080397	021004
DB	4	9	9	٦	S	~	12	~	~	7	14	2	10	10	4	14	14	11	10	2
% Ouery Match Length DB	151	152	155	196	1218	215	216	373	246	303	642	227	348	348	514	856	856	1093	366	461
Query Match	100.0	100.0	93.1	64.4	62.4	60.4	60.4	60.4	59.4	59.4	59.4	58.4	58.4	58.4	58.4	58.4	58.4	58.4	57.4	57.4
Score	101	101	94	65	63	61	61	61	9	9	9	59	59	59	59	29	59	59	28	28
Result No.	-	7	m	4	'n	ø	7	60	თ	10	11	12	13	14	15	16	17	18	19	20

9.64e+00 9.64e+00 9.64e+00 9.64e+00 1.44e+01 1.44e+	2.13e+01 2.13e+01 2.13e+01 2.13e+01 3.15e+01
HEXOSAMINIDASE A (BETA SALI MODIFICATION METH ENVELOPE GLYCOROTEIN PEPTIDE SYNTHASE LCRACDE GENES, COMPLE ORUGH. HYPOTHETICAL 53.0 KD P 2A PROTEIN CMV-SD 2A. SIMILARITY TO MEMBRANE REVERSE GYRASE. KIAAOLIA PROTEIN (FRAG TENASCIN C PRECURSOR. PLASMILA PROTEIN (FRAG TENASCIN C PRECURSOR. PLASMID PAM-BETAL ADEN HYPOTHETICAL 4.8 KD PR HYPOTHETI	HSP-1 PROTEIN. HYPOTHETICAL 74.2 KD PUTATIVE ABC TRANSPORT ENVELOPE GLYCOPROTEIN TENASCIN PRECURSOR (IN JOHNSON GRASS MOSAIC V
064246 053609 0693296 0693296 043889 043167 0062144 0066144 0066294 051934 051934 051934 051934 051936 065093075	093601 014331 052772 070000 029116 082933
11 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	14.03
528 587 857 1171 43 238 84 87 87 87 87 87 87 87 87 87 87	640 677 709 864 1746 3052
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ALIGNMENTS

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PRT; 151 AA. CREATED) LAST SEQUENCE UPDATE) LAST ANNOTATION UPDATE) PRECURSOR. TA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES; IO. ZISFEIN J., SMIT J., HABER E., HOMCY C., atrial natriuretic factor gene."; "NED. TIC_PEPTIDE; 1.	CARDIODILATIN-RELATED PEPTIDE (CDP). ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP). BY SIMILARITY. ; E8827DA3 CRC32; Score 101; DB 42, Length 151; Pred. No. 1.40e-08; 0; Mismatches 0; Indels 0; Gaps	PRT; 152 AA. CREATED) LAST SEQUENCE UPDATE) LAST ANNOTATION UPDATE)
December 2	VASOACTIVE; SIGNAL. SIGNAL 1 25 PEPTIDE 26 FEPTIDE 124 151 DISCURID 130 146 SEQUENCE 151 AA; 16381 MW; OUGTY MATCh 100.0%; S BEST LOCAL SIMILATITY 100.0%; S MATCHS 15; CONSERVATIVE	DD 115 LRALLTAPRSLRRSS 129
RES PT PT P	SETTER CO.	DD RES

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1062 LKPLMTAARALR 1073
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| LRALLTAPRSLR 12
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SEQUENCE FROM N.A.
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STRAIN-H37RV;
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STRAIN-H37RV;
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077443;
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:
        OVIS ARIES (SHEEF).
EUKARYOTA; METAZOA: CHORDATA: VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                    Gaps
                                                            SEQUENCE FROM N.A.
AITKEN G.D., RAIZIS A.M., GEORGE P.M., ESPINER E.A., CAMERON V.A.;
SUBMITTED (DEC.1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL, AF037465, 23708659, -
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
SEQUENCE 152 AA; 16368 MW; D5360BCC CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-DELTA H;
MEDLINE: 98037514.
SMITH D.R., DOUGETTE-STAMM L.A., DELOUGHERY C., LEE H.-M., DUBOIS ,
ALDREDGE T., BASHIRAADEH R., BLAKELY D., COOK R., GILBERT K.,
HARRISON D., HOANG L., KEAGLE P., LUMM W., POTHIER B., QIU D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MTH1746.
METHANOBACTERIUM THERMOAUTOTROPHICUM.
ARCHARA: EURYARCHAEOTA; METHANOBACTERIALES; METHANOBACTERIACEAE;
                                                                                                                                                                                  ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
                                                                                                                                                                                                                                                                                                                                                                      TUPAIA BELANGERI.
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
SCANDENTIA; TUPAIIDAE; TUPAIA.
                                                                                                                                                         Length 152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 155;
                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                        TISSUE-HEART;
SCHNEIDEMANN S., MAEGERT H.J., FORSSMANN W.G.;
SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PARDIGOLA.;
SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
SUBMITTED (MAR-1996). -
PROSITE: PS00263: NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212: ANP: 1.
SEQUENCE 155 AA: 16860 MW; 77E8CA8B CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CREATED)
LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                  01-NOV-1996 (TREMBLREL. 01, CREATED)
01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
CARDIODILATIN, ATRIAL NATRIURETIC PEPTIDE.
                                                                                                                                                     Score 101; DB 6; Ler
Pred. No. 1.40e-08;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 93.1%; Score 94; DB 6; Le Local Similarity 86.7%; Pred. No. 5.26e-07; es 13; Conservative 2; Mismatches 0;
                                                                                                                                                                                                                                                                                          155 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  196 AA
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01-JAN-1998 (TREMBLREL. 05, LAST SEQ
01-JAG-1998 (TREMBLREL. 07, LAST ANN
CYTOCHROME C-TYPE BIOGENESIS PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                       Match 100.0%;
Local Similarity 100.0%;
les 15; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 117 LRAMLAAPRSLRRSS 131
                                                                                                                                                                                                           114 LRALLTAPRSLRRSS 128
                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                         1 LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                                                                                                                                                                                                                [1]
SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [2]
SEQUENCĘ FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                            RESULT 3
ID Q29130
AC Q29130;
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027778
027778;
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Matches
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Matches
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SOSSERVES
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MEDLINE: 9284022.

HASHIMOTO T., SANCHEZ L.B., SHIRAKURA T., MULLER M., HASEGAWA M.;

"Secondary absence of mitochondria in Giardia lambita and Trichomonas vaginalis revealed by valyl-tRNA synthetase phylogeny.";

DROC NATL. ACAD. SCI. U.S.A. 95:6860-6865(1998).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MYCOBACTERIUM TUBERCULÓSIS.
BACTERIA; FIRMICUTES; ACTINOBACTERIA; ACTINOBACTERIDAE;
ACTINOMYCETALES; CORYNÉBACTERINEAE; MYCOBACTERIACEAE; MYCOBACTERIUM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
JIMANI N., CARUSO A., BUSH D., SAFER H., PATWELL D., PRABHAKAR S., MODOGALL. S., SHIMER G., GOYAL A., PIETROVSKI S., CHURCH G.M., DANIELS C.J., MAD J.-I., RICE P., NOLLING J., REEVE J.N.; "Complete genome sequence of Methanobacterium thermoautotrophicum deltan: functional analysis and comparative genomics."; EMBL. BACTERIOL. 17971357155(1997).

EMBL. AEO00930, G2622878; "SEQUENCE 196 AA: 214K0 "SECUENCE 196 AA:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 65; DB 1; Length 196;
Pred. No. 5.20e-01;
4; Mismatches 3; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STRAIN-H37RV;
GENTLES S., CHURCHER C.M.;
SUBMITTED (MAY-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BARRELL B.G., RAJANDREAM M.A., PARKHILL J.;
SUBMITTED (MAY-1996) TC EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       O06308 PRELIMINARL;
O06308:
O1-JUL-1997 (TREMBLREL. 04, CREATED)
O1-JUL-1997 (TREMBLREL. 04, LAST SEQUENCE UPDATE)
O1-JUL-1997 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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EMBL, ABO08525: D1029779; -.
AMINOACYL-THAN SYNTHASE.
SEQUENCE 1218 AA. 139225 MW; E98D0361 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 63; DB 5; L
Pred. No. 1.22e+00;
5; Alsmatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT; 1218 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CREATED)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   62.4%;
ilarity 58.3%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       98
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match 64.4%;
Best Local Similarity 53.3%;
Matches 8; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 163 LRRLLRGSRDIRRAS 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1998 (TREMBLREL. 01-NOV-1998 (TREMBLREL. 01-NOV-1998 (TREMBLREL. VALYL TRNA SYNTHETASE.
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| LRALLTAPRSLRRSS 15
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ALBA H., BABA T., FUJITA K., HAYASHI K., INADA T., ISONO K., ITOH T., KASAI H., KASHIMOTO K., KINURA S., KITAKAWA M., KITAGAWA M., MAKINO K., MIKI T., MIZOBUCHI K., MORI T., MOTOMURA K., NAKADE S., NAKAWURA Y., NASHIMOTO H., NISHIO Y., OSHIMA T., SAITO N., SAMPEI G., SEKI Y., SIVASUNDARAM S., TAGAMI H., TAKEDA J., TAKEWOTO K., T
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AMYCOLATOPSIS MEDITERRANEI.
BACTERIA: FIRMICUTES; ACTINOBACTERIA; ACTINOBACTERIDAE;
ACTINOMYCETALES; PSEUDONOCARDINEAE; PSEUDONOCARDIACEAE; AMYCOLATOPSIS.
    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RILEY M., COLLADO-VIDES J., GLASNER J.D., RODE C.K., MAYHEW G.F.,
RILEY M., COLLADO-VIDES J., GLASNER J.D., RODE C.K., MAYHEW G.F.,
GREGOR J., DAVIE N.W., KIRKPATRICK H.A., GOEDEN M.A., ROSE D.J.,
MAJ B., SHAO, Y.;
"The complete genome sequence of Escherichia coli K-12.";
"The complete January of Escherichia coli K-12.";
EMBL; D90819; G174866; -.
EMBL; AE000270; G1788053; -.
PFAM; PF00005; ABC_LTan; 1.
SEQUENCE 246 AA; 27349 MW; 32F5AC45 CRC32;
                                                                                                                                                                                                                                                                                                                                  ESCHERICHIA COLI.
BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; ENTEROBACTERIACEAE;
ESCHERICHIA.
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    Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CREATED)
LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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KIM C.G., YU T.W., FRYHLE C., HANDA S., FLOSS.H.G.;
J. BIOL. CHEM. 0:0-0(1998).
                                                                                                                                                                                                                                       02, CREATED)
02, LAST SEQUENCE UPDATE)
08, LAST ANNOTATION UPDATE)
    ä
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Pred. No. 4.28e+00;
3; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       303 A.A.
    Mismatches
                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
    <u>ن</u>
                                                                                                                                                                                                                                  01-FEB-1997 (TREWBLREL. 02, 01-FEB-1997 (TREWBLREL. 02, 101-NOV-1998 (TREWBLREL. 08, 11NNER MEMBRANE PROTEIN MALK.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 30-246 FROM N.A.
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01-JUN-1998 (TREMBLREL. 06,
01-JUN-1998 (TREMBLREL. 06,
01-AUG-1998 (TREMBLREL. 07,
KINASE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 59.4%;
Best Local Similarity 63.6%;
Matches 7; Conservative
  Conservative
                                              215 LKALAALPKALRRRT 229
                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                            1:|| : |::||| :
1 LRALLTAPESLRRSS 15
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE; 97251357.
                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 97426517
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                                                                                                                                                               LT 9
P76909 PREI
P76909; P76225;
  7;
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052554
  Matches
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                                                                                        "An integrated map of the genome of the tubercle bacillus, Mycobacterium tuberculosis H37Rv, and comparison with Mycobacterium
                                                                                                                                                                                                                                                                                                                                       Gaps
                   PHILIPP W.J., POULET S., EIGLMEIER K., PASCOPELLA L.,
BALASUBRAMANIAN V., HEYM B., BERGH S., BLOOM B.R., JACOBS W.R. JR.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; PSEUDOMONAS GROUP; PSEUDOMONAS.
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                                                                                                                                                                                                                                                                                   Score 61; DB 2; · Length 215; Pred. No. 2.83e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 61; DB 12; Length 216
Pred. No. 2.83e+00;
3; Mismatches 2; Indels
                                                                                                                                                                                                                                                                                                                                    2; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE FROM N.A.

YAP W.H., LI X., SOONG T.W., DAVIES J.E.;
SUBMITTED (FEB-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL: U49150; G1854635; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-PAK;
COYNE M.J., GOLDBERG J.B.;
SUBMITTED (UUL-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; U63816; G222627; -...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-MAY-1997 (TREMBLREL. 03, CREATED)
01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
01-MG (TREMBLREL. 07, LAST ANNOTATION UPDATE)
70-KDA HEAT SHOCK PROTEIN (FRAGMENT).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         .T 8
033426
033426;
033426;
013426;
01-3An-1998 (TREMBLREL. 05, CREATED)
01-3An-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST SNOVTATION UPDATE)
                                                                                                                                       leprae.";
PROC. NATL. ACAD. SCI. U.S.A. 93:3132-3137(1996)
EMBL: 295324; E315475; -.
HYPOTHETICAL PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     60.4%; Score 61; DB 2; L 46.7%; Pred. No. 2.83e+00;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 1
216 216
216 AA; 23489 WW; 106DD33C CRC32;
                                                                                                                                                                                                                                    215 AA; 23102 MW; FD0F1C28 CRC32;
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                                                                                                                                                                                                                                                                                                                                  5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            216 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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UNCLASSIFIED; ENVIRONMENTAL SAMPLES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PFAM; PF00534; Glycos_transf_1; 1.
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                                                                                                                                                                                                                                                                                   / Match 60.4%;
Local Similarity 53.3%;
Nes 8; Conservative
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Local Similarity 58.3%;
nes 7; Conservative
                                                                                                                                                                                                                                                                                                                                                                              189 LRDGVAAPRPVRRST 203
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
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| LRALLTAPRSLRRSS 15
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2 RALLTAPRSLRR 13
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Best Local Similarity
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SEQUENCE FROM N.A.
96181548
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SEQUENCE
                                                                    COLE S.T.;
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NON_TER
SEQUENCE
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                                                                                                                                                                                                                                                                                     Query Match
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P97981;
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Matches
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Best Local Similarity 46.7%;
Matches 7: Concentration
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1LT 14
080398 PRELIMINARY;
080398;
01-NOV-1998 (TREMBLREL, 00
01-NOV-1998 (TREMBLREL, 00
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRELIMINARY;
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| LRALLTAPRSLRRSS | 15
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| LRALLTAPRSLRRSS 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62 LRRIMSSPRVLRMAA 76
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096517
096517;
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ID 08
AC 08
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DT 01
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VIRUSES; DSDNA VIRUSES, NO RNA STAGE; HERPESVIRIDAE; BETAHERPESVIRINAE;
CYTOMEGALOVIRUS.
                                                                                               [3]
SEQUENCE FROM N.A.
STRAIN-S699;
AUGUST P.R., TANG L., YOON Y.J., NING S., MUELLER R., HUTCHINSON C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-TOLEDO:
STRAIN-TOLEDO:
MEDLINE; 96099416.
CHA T.A., 700 E., KEMBLE G.W., DUKE G.M., MOCARSKI E.S., SPAETE R.R.;
"Human cytomegalovirus clinical isolates carry at least 19 genes not found in laboratory strains.";
J. VIROL. 70:78-83(1996).
EMBL; U33331; G1167937;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRAIN-BRISTOL N2;
MEDLINE; 94150718.
WILSON R., ANDERSON K., BAYNES C., BERKS M.,
WILSON R., AINSCUGH R., ANDERSON K., BAYNES C., BERKS M.,
CRAXTON J., CONNELL M., COPSEY T., COOPER J., COULSON A.,
CRAXTON M., DEAR S., DU Z., DORBIN R., FAVELLO A., FULTON L.,
GARDNER A., GREEN P., HAMWINS T., HILLIER L., JIER M., JOHNSTON L.,
LOONES M., KERSHAW J., KIRSTEN J., LAISTER N., LAITRILLE P.,
LIGHTNING J., LLOYD C., MCMURRAY A., MORTIMORE B., O'CALLAGHAN M.,
                                                                                                                                                                                                                                                                                                                                                                           Gaps
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EUKARYOTA: META2OA; NEMATODA; SECERNENTEA: RHABDITIA; RHABDITIDA;
RHABDITINA; RHABDITOIDEA; RHABDITIDAE; PELODERINAE; CAENORHABDITIS
AUGUST P.R., TANG L., YOON Y.J., NING S., MUELLER R., YU T.W., TAYLOR M., HOFFMANN D., KIM C.G., ZHANG X., HUTCHINSON C.R., FLOSS H.G.;
CHEM. BIOL. 5:0-0(0002).
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                                                                                                                                                                                                                                                                                                                    Score 60; DB 2; Length 303;
Pred. No. 4.28e+00;
5; Mismatches 2; Indels
                                                                                                                                                                                      FLOSS H.G.;
SUBMITTED (DEC-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; AF040570; G2792326; ...
SEQUENCE 303 AA; 30823 MW; FAEA9BDI CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CREATED)
LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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LAST ANNOTATION UPDATE)
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07,
08,
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Best Local Similarity 53.3%;
Matches 8; Conservative
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Best Local Similarity 53.3%;
Matches 8; Conservative
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061790
061790;
01-AUG-1998 (TREMBLREL. 07
01-AUG-1998 (TREMBLREL. 07
01-NOV-1998 (TREMBLREL. 07
812E2.11 PROTEIN.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
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| LRALLTAPRSLRRSS 15
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Q68404
Q68404;
     SOREARCERA
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EUKARYOTA; VIRIDIPLANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
EUPHYLLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
CAPPARALES; BRASSICACERE; ARABIDOPSIS.
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                                                                                                                                                                                                                                                                                                                                                             STRAIN-BRISTOL N2;
WATERSTON R.;
WATERSTON R.;
WATERSTON R.;
WATERSTON R.;
SUBMITTED (MAY-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
-1- SIMILARITY: PARTIAL WITH OTHER PHOSPHORIBOSYLTRANSFERASE ALSO
INVOLVED IN BIOSYNTHESIS OR SALVAGE OF PURINES OR PYRIMIDINES.
EMBL; AFO67219; G31505,23;
PROSITE: PS00103; PUR_PYR_PR_R.
TRANSFERASE; GLYCOSYLTRANSFERASE.
SEQUENCE 227 AA; 25192 MM; ADIED310 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-FEB-1997 (TREMBLREL. 02, CREATED)
01-FEB-1997 (TREMBLREL. 02, LAST SEQUENCE UPDATE)
01-JAN-1999 (TREMBLREL. 09, LAST ANNOTATION UPDATE)
MAP KINASE KINASE ALPHA PROTEIN KINASE (EC 2.7.1.37)
(PHOSPHORYLASE B KINASE KINASE) (GLYCOGEN SYNTHASE A KINASE)
(HYDROXYALKYL-PROTEIN KINASE) (SERINE(THREONINE) PROTEIN KINASE)
PARSONS J., PERCY C., RIFKEN L., ROOPRA A., SAUNDERS D., SHOWNKEE SMALDON N., SMITH A., SONHAAMER E., STABEN R., SULSTON J., THIBREY-MIEG J., THOMAS K., VAUDIN M., VAUGHAN K., WATESJON R., WATSON A., WEINSTOCK L., WILKINSON-SPROAT J., WOHLDMAN P.; Elegans.", So the fortiquous nucleotide sequence from chromosome III of elegans.";
NATURE 368:32-38(1994).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 59; DB 5; Length 227;
Pred. No. 6.44e+00;
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                                                                                                                                                                                                                          SEQUENCE FROM N.A.
STRAIN-BRIGGOL N2;
GOULA D., SCHEET P.;
SUBMITTED (MAY-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CREATED)
LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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Pred. No. 6.44e+00;
4; Mismatches 4;
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SEQUENCE S., HAMAL A., KREIS M., HENRY Y.;
PLANT PHYSIOL. 112:1397-1397(1996).
EMBL; Y07694; ES563227; -.
PFAM; PFO0069; pkinase; 1.
MENNEL; 14316; ARAth; 2349; mn14316.
TRANSFERASE; PROTEIN KINASE.
SEQUENCE 348 AA; 38329 WW; E9A05E6F CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 6; Mismatches
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ANGIOTENSIN/VASOPRESSIN RECEPTOR AIL/AVP.
HOMO SAPIENS (HUMAN).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; PRIMATES;
            ARABIDOPSIS THALIANA (MOUSE-EAR CRESS).
EUKARYOTA; VIRIDIPLANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
EUPHYLLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
CAPPRALES; BRASSICACEAE; ARABIDOPSIS.
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                                                                                                                MAO M., ZHANG Q., FU G., HUANG Q., WU J., YU Y., XU S., SHENG J., ALPU J., WANG Y., CHEN Z., Indentification of genes expressed in human CD34(+) hematopoietic stem/progenitor cells by expressed sequence tags and efficient
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                                                                                                                                                                                                                                                      Length 348;
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Pred. No. 6.44e+00;
5; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                      4; Indels
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LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          full-length cDNA cloning.";
PROC. NATL. ACAD. SCI. U.S.A. 95:8175-8180(1998).
EMBL; AF054176; G3341996; -.
SEQUENCE 514 AA; 58928 MW; 16DED609 CRC32;
                                                                                                                                                                                                                                                   Score 59; DB 10; Pred. No. 6.44e+00;
                                                                                                                                                                                                                                                                                      4; Mismatches
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Best Local Similarity 53.8%;
Matches 7; Conservative
                                                                                                                                                                                                                                                   Ouery Match
Best Local Similarity 46.7%;
Matches 7; Conservative
                                                                                                                                                                                                                                                                                                                     334 LROMLPPPRPLPSAS 348
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| LRALLTAPRSLRRSS 15
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| LRALLTAPRSLRR 13
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                                                                                                  SEQUENCE FROM N.A.
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Search completed: Wed Jun 16 13:20:44 1999 Job time: 40 secs.

17 41 100.0 20 41 100.0 21 41 100.0 22 41 100.0 23 41 100.0 25 7 26 41 100.0 27 29 41 100.0 28 41 100.0 28 41 100.0 29 41 100.0 20 20 21 12 21 41 100.0 22 41 100.0 23 41 100.0 24 41 100.0 25 7 27 29 41 100.0 28 31 41 100.0 29 31 41 100.0 20 31 20 31 31 41 100.0 20 31 20 31 31 41 100.0 21 22 31 22 31 31 41 100.0 27 27 12 31 100.0	41 100.0 41 100.0 41 100.0 41 100.0 41 100.0 41 100.0 41 100.0	41 100.0 1 41 100.0 1	RESULT 1 ID R29918 standard; Protein;	alogue (26) alogue (26) anatriureti osclerosis; tic.	region 722 /note-	disulfide_bond EP-497368-A. 05-AUG-1992. 31-JAN-1991; JP-1	28-JUN-1991; (MATS/) MATS (SUNR) SUNT FULLYA M, KI	PT New C-type natriuretic per vascular smooth muscle cer practice ceres and attention and attention which control is possible for the cyclic GMP produce control is populated of RE15948-56, REC C It was found that CNP der CC producing activity than CC producing activity than CC producing activity than CC c and [Leulo, Lysli, Leulz] CC C C C The control is possible control in the control is control in the cont	cell growth suppr are anticipated t diseases such as
	e s 199	Scoring table: PAM 150 Gap 15 Searched: 170751 segs, 21266608 residues	Post-processing: Minimum Match 0% Listing first 45 summaries	Database: a-geneseq35 1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7 8:part8 9:part9 10:part10 11:part11 12:part12 13:part13 14:part14 15:part15 16:part10 17:part17 18:part18 19:part14 15:part15 16:part12 12:part12 23:part18 20:part20 21:part21 22:part22 23:part23 24:part24 25:part25 26:part26 27:part27 28:part28 29:part29 30:part39 31:part34 35:part34 35:part35 36:part37 38:part38	Statistics: Mean 14.664; Variance 41.977; scale 0.349	Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.	SUMMARIES Result Query No. Score Match Length DB ID Description Pred. No.	1 41 100.0 22 5 R29918 CNP analogue (26). 2.82e+02 3 41 100.0 22 35 W70089 Alpha human atrial na 2.82e+02 4 1 100.0 22 1 R40676 Arrial peptide analog 2.82e+02 5 41 100.0 22 7 R40674 [Arg128][D-Ala131][D-2.82e+02 6 41 100.0 23 7 R36974 ANVP #38. 2.82e+02 7 41 100.0 23 7 R36974 ANVP #38. 2.82e+02 9 41 100.0 23 7 R40663 [Arg129][D-Ala131][D-2.82e+02 10 41 100.0 23 7 R40663 [Arg129][D-Ala131][D-2.82e+02 11 41 100.0 23 7 R40663 [Arg128][D-Ala131][D-2.82e+02 11 41 100.0 23 7 R40664 Alpha human Atrial na 2.82e+02 12 4 100.0 23 7 R40654 [Arg128][D-Ala131][D-2.82e+02 13 4 100.0 24 4 P94851 Sequence of atrial na 2.82e+02 13 4 100.0 24 6 P94851 Sequence of atrial na 2.82e+02	4 41 100.0 24 1 R04102 Infranasally effectiv 2.8 41 100.0 25 7 R40702 [Ser136]hANVP(127-151 2.8 41 100.0 25 7 R40456 [D-Leu143]rANVP(126-1 2.8

2.82e+02 2.82e+02	2.82e+02	•		2.82e+02				2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02		2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02	2.82e+02
[Asn136]hANVP(127-151 [D-Ala138]rANVP(126-1	-Cys146]hANVP(127-	[Phe134]rANVP(126-150	[D-Ala132]rANVP(126-1	ANVP #15.	ANVP #16.	[D-Ala131]rANVP(126-1	ANF (3-28) N-MEALA(17	ANF (3-28) PRO(20).	4	6	ANF (3-28) D-ALA(9) P	Generic natriuretic d	Vasonatriuretic pepti	atr	due (dener	Cardionatrin peptide.	Alpha human atrial na	Alpha rat atrial natr	Alpha-fragment of hum	Sequence encoding pho	N-terminal of alpha-h	Human atrial natriure	Atrial natriuretic pe	nat	Alpha-human atrial na	Human gamma atrial na	Cardiodilatin peptide
R40563 R40440	R40475	R40569	R40423	R36951	R36952	R40412	R21586	R21587	P71129	R21582	R21583	R62357	R62358	P60084	R25947	P50048	W70087	W70088	P61015	P91314	R03415	P61706	W67039	R08327	_	10	P50050
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ALIGNMENTS

In the determination which domain structure of CNP was responsible in the determination which domain structure of CNP was responsible for the cyclic GMP producing activity characteristic of CNP, the peptides of R25948-56, R82970-31 and R29914-19 were synthesised. It was found that CNP derivs. exhibiting a stronger cyclic GMP producing activity than CNP-22 or alpha-hANP could be constructed by replacing part of the amino acid residues in CNP-22, CNP (6-22) and [Leulo, Lys11, Leul2] alpha-hANP(7-28) with unusual amino acid (non-native type) residues.

CNP derives that exhibit a strong cyclic GMP producing activity and cell growth suppressing activity against vascular smooth muscle cells are anticipated to be useful in therapeutics or preventives against diseases such as restenosis and arteriosclerosis. Among the derive

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Location/Qualifiers
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misc_difference 19
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R40675;
                                                                                    /label- OTHER
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WPI; 93-175525/21.
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Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                      (PENI-) Peninsula Labs Inc.
WPI; 88-049653/07.
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Local Similarity 100.0%;
nes 5; Conservative
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18-MAY-1993.
09-APR-1984; 602117.
09-APR-1984; US-602117.
01-JUN-1984; US-616488.
        atriopeptin; alpha-hANP
Synthetic.
                                                                                                                                                           26-JAN-1988.
09-MAY-1986, 861528.
09-MAX-1986, US-861528.
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05-JUN-1986; US-870795
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Lewicki JA, Scarborou
                                                                misc_difference 1..1
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Matches
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This represents a human alpha atrial natriuretic peptide sequence
field halpha. MANP). The invention provides a composition for treating cardiac
diseases associated with cardiac hypertrophy. The composition comprises
an active ingredient capable of binding to the peptide receptor of GG-A
and promoting production of CGMP. The drug composition may be used
clinically to treat cardiac diseases caused by cardiac hypertrophy,
including chronic heart failure, ischaemic cardiac diseases and
arrhythmia. The active substance can bind to the natriuretic peptide
receptor of GG-A and promote production of CGMP, effectively preventing
cardiac hypertrophy and leading to improvement of the pulmonary blood
circulation. The substance does not affect haemodynamic properties,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           28-OCT-1998 (first entry)
Alpha human atrial natriuretic peptide (alpha-hANP) 2 (residues 7-28).
ANP: atrial natriuretic peptide; cardiac disease; cardiac hypertrophy; chronic heart failure; iscinaemic cardiac disease; arrhythmia; cGMP: pulmonary blood circulation; haemodynamic property.
that contain unusual amino acid (non-native type) derivs. would probably exhibit resistance to proteases in the living body (in blood and on the surface of cells) upon admin. In vivo. Therefore, those derivs. even if they have a lower cyclic GMP producing activity than CNP-22 or alpha-hANP, would be characterised by a longer blood half-life than CNP analogs free from unusual amino acids, and, from this viewpoint, too, those derivs. are anticipated to have industrial
                                                                                                                                                     Cyclic GMP producing activity for CNP analog (26) is 255% increase for 1 microm, compared to 100% for alpha-hANP and 621% for CNP-22 (specific activity as compared to the activity of 1 microm alpha-hANP (2000 fmol/400000 cells), with max. activity being equiv. to the Sequence 22 AA;
                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PB1568 standard; protein; 22 AA. p81568 p91568. 10-00T-1990 (first entry) Atrial peptide analog with diuretic and natriuretic activities Atrial peptide analog; diuretic; natriuretic; hypotensive activity;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Drug composition comprises natriuretic peptide(s) - for safe
treatment of cardiac hypertrophy associated diseases and chronic
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Pred. No. 2.82e+02;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                             Score 41; DB 5; Length 22;
Pred. No. 2.82e+02;
0; Mismatches 0; Indels
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W70089 standard; peptide; 22 AA.
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Best Local Similarity 100.0%;
Matches 5; Conservative
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Matches 5; Conservative
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05-FEB-1997; JP-022594.
(SUNR ) SUNTORY L'ID.
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|NSFRY 5
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28-OCT-1998
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Atrial peptides.

Atrial peptides.

Atrial peptides.

Als at the 3 position is D-Als. Tyr22 has an NH2 group attached.

The peptide increases the cyclic GMP produced in assayed cells at considerable greater levels than Atriopeptin III and alpha-hANP, has a much greater hypotensive effect, and is a more potent diuretic.

See also P81568-P81572.
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Disclosure; Column 52; 45pp; English.
The sequences given in R40387-748 are atrial natriuretic/
vasodilator peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation of fluic volume and blood pressure in host organisms. These ANVP fragments may be produced by solid-phase techniques. See also R36937-78.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
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Human; pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
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/note="beta-mercaptopropanoic acid Disulphide-bonds 1..17
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25-NOV-1987
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The sequences given in R36937-78 are atrial natriuretic/vasodilator
peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (SCIO:) SCIOS NOVA INC.
Lewicki JA, Scarborough RM;
WPI: 93-17525/21.
New polypeptide cpd. - useful as natriuretic, diuretic and/or
New polypeptide cpd. - useful as natriuretic, diuretic and/or
New polypeptide cpd. - useful as natriuretic, diuretic and/or
New polypeptide cpd. - useful as natriuretic, diuretic or sequences given in R40387-748 are atrial natriuretic,
The sequences given in R40387-748 are atrial natriuretic,
These production of fluid volume and blood pressure in host organisms.
These ANVP fragments may be produced by solid-phase techniques. See
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                                                                                     14-SEP-1993 (first entry)
fragi28|D-Alali]|D-Serid7|raNVP(129-145)-NH2.
Human: pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
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Pred. No. 2.82e+02;
0; Mismatches 0;
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R40674 standard; Protein; 22 AA.
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Best Local Similarity 100.0%;
Matches 5; Conservative
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09-ARR-1984; 602117.
09-ARR-1984; US-602117.
01-UNN-1984; US-616488.
08-MAY-1985; US-766030.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-602117
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08-MAY-1985; US-766030
05-JUN-1986; US-870795
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09-APR-1984; 602117.
                                                                                                                                                                                                                                                                                     misc_difference 19
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WPI; 93-175525/21
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         22 AA;
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misc_difference
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                                                                                                                                                                                                                                                                                                                                 modified_site
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                                                              R40674;
14-SEP-1993
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Disclosure; Column 11: 45pp; English.
The sequences given in R36937-78 are atrial natriuretic/vasodilator peptide (ANVR) cDNAs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms. These ANVP fragments may be produced by solid-phase techniques. See also
                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                Human; pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
    These ANVP
                         See also
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Diuretic; atrial natriuretic facotr; ANF; hypotensive agent;
hypertension; vasodilation.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 41; DB 7; Length 23;
Pred. No. 2.82e+02;
0; Mismatches 0; Indels
                                                                                                            Score 41; DB 7; Length 23;
Pred. No. 2.82e+02;
0; Mismatches 0; Indels
of fluid volume and blood pressure in host organisms. fragments may be produced by solid-phase techniques. R40387-749.
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R36973 standard; Protein; 23 AA.
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disulfide_bond 2..18
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20-MAY-1986; CA-509564.
(ADPE) ADV PEPTIDE DEV LTD.
Deghenghi R, Immer HU;
WPI; 87-329003/47.
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Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                            Query Match
Best Local Similarity 100.0%;
Matches 5; Conservative
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14-SEP-1993 (first entry)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09-APR-1984; US-602117
01-JUN-1984; US-616488
08-MAY-1985; US-766030
05-JUN-1986; US-870795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               (SCIO-) SCIOS NOVA INC
Lewicki JA, Scarborou
WPI; 93-175525/21.
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                                                                   23 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               misc_difference 3
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US-09-027-777B-3.rag

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vasodilator in mammals
Disclosure: Column 11, 45pp; English.
The sequences given in R36937-78 are atrial natriuretic/vasodilator
peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation
of filld volume and blood pressure in host organisms. These ANVP
fragments may be produced by solid-phase techniques. See also
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The sequences given in R40387-748 are atrial natriuretic/
vasodilator peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms.

These ANVP fragments may be produced by solid-phase techniques. See also R36937-78.
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[Arg128][D-Ala131][D-Ala142]rANVP(129-150).
Human: pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat;
regulation; fluid volume; blood pressure.
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                                                                                                               01-UUN-1994; US-616488.
08-MAY-1985; US-766030.
05-UUN-1986; US-870795.
(SCIO.) SCIOS NOVA INC.
WPI: 93-175525/21.
New polypeptide cpd - useful as natriuretic, diuretic and/or
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                                                                                                                                                                                                                                                                                                                                                                                             Score 41; DB 7; Length 23;
Pred. No. 2.82e+02;
0; Mismatches 0; Indels
                                       "D-form residue"
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         'note= "D-form residue'
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2..18
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R40654 standard; Protein; 23 AA.
R40654;
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Lewicki JA, Scarborough RM;
WPI; 93-175525/21.
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Best Local Similarity 100,0%;
Matches 5; Conservative
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Best Local Similarity 100.0%;
Matches 5; Conservative
                                       /note-
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08-MAY-1985; US-766030
05-JUN-1986; US-870795
                                                                     18-MAY-1993.
09-APR-1984; 602117.
09-APR-1984; US-602117
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   2..18
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   disulfide_bond
misc_difference
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09-APR-1984;
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Disclosure: Column 50: 45pp; English.
The sequences given in R40387-748 are atrial natriuretic/
vascdilator peptide (ANVP) cDNAs. These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms.
These ANVP fragments may be produced by solid-phase techniques. See
New synthetic natriuretic peptide(s) - contg. 23 amino acid(s) and having eg diuretic, vaso-relaxant and antihypertensive activities.
                                                 Claim 5: Page 16: 16pp: English.

The peptide shows dissociation of diuretic and natriuretic effects from undesirable vasorelaxant effects on the heart rate, and duration of action is longer than for known natriuretic peptides. It is prepd. by solid phase synthesis. The C-terminal see also P71447.
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Synthetic.
                                                                                                                                                                                                                                                                                                                                                                                                                             (Arg129)(D-Alai32)(D-Cysi46)haNVP(130-151).
Human: pre-pro: atrial natriuretic/vasodilator peptide: ANVP: rat:
regulation; fluid volume: blood pressure.
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Pred. No. 2.82e+02;
0; Mismatches 0; Indels
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Pred. No. 2.82e+02;
0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                             LT 9
R40663 standard; Protein; 23 AA.
R40663;
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Best Local Similarity 100.0%;
Matches 5; Conservative
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Best Local Similarity 100.0%;
Matches 5; Conservative
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ANVP #35.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    09-APR-1984; US-602117.
01-JUN-1984; US-616488.
08-MAY-1985; US-766030.
05-JUN-1986; US-870795.
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Lewicki JA, Scarborouc
WPI; 93-175525/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    602117
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10-32F-1990 (first entry)
Intranasally effective diuretic atrial peptide.
Diuretic; atrial peptide.
                                                                                                                                                                                                                                   /label=May be Ile or Met
                                                                                                                                                                                    Location/Qualifiers
3..19
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                                                                                                         R04102 standard; peptide; 24 AA.
R04102;
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Lewicki JA, Scarborough RM;
WPI; 93-175525/21.
                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
5; Conservative
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10-MAY-1985; US-732781.
(MONS) Monsanto Co.
Klopf LL, Hecht RI;
WPI; 90-124666/17.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  09-APR-1984; US-602117
01-JUN-1984; US-616488
08-MAY-1985; US-766030
05-JUN-1986; US-870795
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                                                                                                                                                                                                                        misc_difference
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                           20 nsfry 24
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                                                                                                                                                                               Synthetic.
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Matches
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Example: Page 15, 24pp; German.
P93041,P94848-P94853, P93098-P93100 are examples of the generic formula for peptides of the invention. They have diuretic, natriuretic and vasodilatory activity, and also immunomodulatory activity. They may also be used to treat renal insufficiency and to protect the kidneys against renal toxins, e.g. cyclosporin during kidney transplantation, and for treating glaucoma and/or reducing
                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                  are hypotensives and natriuretics.
Claim 1: page 32: 33pp; English.
Peptides can be used as a therapeutic drug for hypertension, a diuretic. for cardiac and cerebral circulatory diseases and as muscle relaxant.
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                                                             05-DEC-1990 (first entry)
Alpha-human Atrial Natriuretic Peptide (hANP) analogue #3.
alpha-human Atrial Natriuretic Peptide analogue;
                                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 24;
                                                                                                                                                                                                                                                                                                                                                                                                  ; DB 1; Length 23; 2.82e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              30-MAR-1992 (first entry)
Sequence of atrial natriuretic factor (ANF) analogue.
Diuretic; natriuretic; vasodilator; immunomodulator.
Nev
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Pred. No. 2.82e+02;
                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
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Breipohl G, Knolle J, Konig W, Hropot M;
WPI; 89-016929/03.
                                                                                                                                                                                                                                                                                                                                                                                                  Score 41;
Pred. No. 2
                                                                                                                                  Key Location/Qualifiers
disulphide_bond Disulphide_bond 2..18
/note="intramolecular"
                                                                                                                                                                                       01-JUN-1988.
29-SEP-1987; 308586.
29-SEP-1986; JP-231429.
(TAKE) Takeda Chemical Ind KK.
Fujino M, Wakimasu M, Nishikawa K.;
WPI; 88-149016/22.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     P94851 standard; peptide; 24 AA.
                                     P82984 standard; protein; 23 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          /label- Tyr(Me)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               /label- Tyr-OH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /label= H-Ser
                                                                                                                                                                                                                                                                          Alpha-hANP peptide analogues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                  Match 100.0%;
Local Similarity 100.0%;
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                                                                                                                                                                                                                                                                                                                                                                                                                             Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  18-JAN-1989.
09-JUL-1988; 111011.
16-JUL-1987; DE-723551.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             intraocular pressure.
Sequence 24 AA;
                                                                                                        hypotensive activity. synthetic.
                                                                                                                                                                                                                                                                                                                                                                       23 AA;
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modified_site
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1 NSFRY 5
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Disclosure; Column 54; 4pp; English.

The sequences given in R40387-748 are atrial natriuretic/

These ANVP fragments may be used for regulation of fluid volume and blood pressure in host organisms.

These ANVP fragments may be produced by solid-phase techniques. See
Diuretic compsin. contg. atrial peptide -
in from for nasal admin. pref. in aq. soln.
Claim 1; Page 8; 10pp; English.
Derivatives of the diuretic peptide may have one or both C-terminal residues and up to four N-terminal residues absent.
Sequence 24 AA:
                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                [Ser136]JANVP(127-151).

Human; pre-pro; atrial natriuretic/vasodilator peptide; ANVP; rat; regulation; fluid volume; blood pressure.
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                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                 Length 24;
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Pred. No. 2.82e+02;
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Pred. No. 2.82e+02;
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Best Local Similarity 100.0%;
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Search completed: Wed Jun 16 13:22:58 1999 Job time : 16 secs.

US-09-027-777B-3.rai

	4 4 0	RESULT 1	ID 521228 XX XX AX AC XXXXXX	XX DT 01-JAN-1900			CC PEPTIDE COMPU CC NUMBER OF	8888	388		CC SEQ ID NO:22:	CC CEQUENCE SQ SEQUENCE	Ouery Match	Best Local	. 42		-	SULT	ID US-07-828	AC XXXXXX	DI	DE Sequence	Sequence
	39.045 Milli c not generated. >US-09-027-7778-3 (1-5) from US090277778.pep	Perfect Score: 41 Sequence: 1 NSFRY 5	Scoring table: PAM 150 Gap 15	Searched: 106580 segs, 10152877 residues	Post-processing: Minimum Match 0% Listing first 45 summaries	Database: a-issued 1:5A_COMB 2:5B_COMB 3:PCT9_COMB 4:backfiles1	Statistics: Mean 13.767; Variance 41.507; scale 0.332	Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.		result No. Score Match Length DB ID Description Pred. No.	41 100.0 5 4 5212286-22 Patent No. 5212286. 1.4	41 100.0 22 1 US-07-828- Sequence 25, Applicati 1.4	41 100.0 23 4 5212286-48 Patent No. 5212286. 1.4	41 100.0 23 4 5212286-39 Patent No. 5212286. 1.4 41 100.0 23 4 5212286-37 Patent No. 5212286. 1.4	41 100.0 23 4 5212286-43 Patent No. 5212286. 1.4 41 100.0 23 4 5212286-45 Patent No. 5212286. 1.4	41 100.0 23 4 5212286-44 Patent No. 5212286. 1.4 41 100.0 24 1 US-08-257- Sequence 5, Aprilication 1.4	41 100.0 25 4 5212286-55 Patent No. 5212286. 1.4	41 100.0 25 4 5212286-39 Patent No. 5212286. 1.4	41 100.0 25 4 5212286-33 Patent No. 5212286. 1.4 41 100.0 25 4 5212286-36 Patent No. 5212286. 1.4	41 100.0 25 4 5212286-31 Patent No. 5212286. 1.4 41 100.0 25 4 5202239-16 Patent No. 5202239	41 100.0 25 4 5212286-27 Patent No. 5212286. 1.4	5212286-34 Patent 5212286-34 Patent	41 100.0 27 4 5204327-2 Patent No. 5204327. 1.4

1.48e+02 1.4		Gaps 0;
Patent No. 5202239. Sequence 30, Applicati Patent No. 5204327. Patent No. 5204327. Patent No. 5461142. Patent No. 5461142. Sequence 40, Applicati Sequence 25, Applicati Sequence 3, Applicati Sequence 3, Applicati Sequence 31, Applicati Sequence 31, Applicati Sequence 31, Applicati Sequence 37, Applicati Sequence 10, Sequence 10, Applicati Sequence 21, Applicati Sequence 21, Applicati Sequence 21, Applicati Sequence 21, Applicati Sequence 31, Applicati Seq	ALIGNMENTS PRT; 5 AA. JOHN A.; SCARBOROUGH, ROBERT M. ATRIAL NATRIURETIC/VASODILATOR 68 DATA: 1 US/07/870,795 N-1986 TA: 266,030 T-1985 T-1985 T-1985 N-1984 N-1984	DB 4; Length 5; .48e+02; .ches 0; Indels 0; 22 AA.
4 5202239-5 1 US-07-828- 4 5204327-1 4 5204327-3 4 5461142-1 1 US-08-451- 1 US-08-451- 2 S202239-1 4 5202239-3 5202239-3 6 5212286-6		arity 100.0%; Score 41; DB 4 conservative 0; Mismatches Conservative 0; Mismatches -26 STANDARD; PRT; 2 Application US/07828450
100.0 10	1286-22 STANDARD; PRT; xx AN-1900 nt No. 5212286. nt No. 5212286 TITLE OF INVENTION: ATRIAL NATF IDE COMPUNDS CURRENT APPLICATION DATA: APPLICATION NUMBER: US/07/87 FILING DATE: 05-JUN-1986 PRIOR APPLICATION DATA: APPLICATION NUMBER: 166,030 FILING DATE: 09-MAY-1985 APPLICATION NUMBER: 602,117 FILING DATE: 09-MAY-1985 APPLICATION NUMBER: 602,117 FILING DATE: 09-MAY-1984 APPLICATION NUMBER: 602,117 FILING DATE: 09-MAY-1984 APPLICATION NUMBER: 616,488 FILING DATE: 01-JUN-1984 APPLICATION NUMBER: 612,117 APPLICATION NUMBER: 612,117 APPLICATION NUMBER: 612,488 APPLICATION NUMBER: 612,488 FILING DATE: 01-JUN-1984 APPLICATION NUMBER: 612,488 FILING DATE: 01-JUN-1984 APPLICATION NUMBER: 612,488 FILING DATE: 01-JUN-1984	imil 5; x 5 x 5 x 5 26, 26,
225 - 226 - 227 - 228 -	xxxx xxxx 11-J 11-J 11-J ate ate ate	Local hes I NSF 1 NSF 1 NSF 1 NSF 1 NSF 2 S - 07 - 82 XXXXX
	8.0	Ouer Best Best Best Oy Oy XX

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COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, Version #1.25
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/828,450
CLASSIFICATION: 530
ATTORNEY/AGFW
                                                                                                                                                                                                                                                                                                                                                                                                                            0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 41; DB 4; Le
Pred. No. 1.48e+02;
0; Mismatches 0
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Pred. No. 1.48e+02;
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R: 9437/94133
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APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-40N-1986
FILING APPLICATION DATA:
APPLICATION NUMBER: 766,030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25
                                                                                                                                                     CLASSIFICATION: 530
ATTORNEY/AGENT INFORMATION:
NAME: SCOTT, WAISON T.
REGISTRATION NUMBER: 26,581
REFERNCE/DOCKET NUMBER: 943
TELECOMMUNICATION INFORMATION:
TELEPHONE: 202-861-3067
                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE: Petide
SEQUENCE 22 AA; 2369 MW; 2338 CN;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-UUN-1984
SEQ ID NO:48:
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                                                                                                                                                                                                                                                            TELEX: 6714627 CUSH
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                        22 amino acids
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Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                   TYPE: AMINO ACID
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 68
                STATE: D.C.
COUNTRY: USA
ZIP: 20036
COMPUTER READABLE FORM:
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Best Local Similarity 100.0%;
Matches 5; Conservative
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APPLICATION NUMBER
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  WASHINGTON
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CITY: WAS
STATE: D
COUNTRY:
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TELEX: 6
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APPLICANT: FUNUYA, MAYUMI
APPLICANT: FUNUYA, MAYUMI
APPLICANT: FUNUYA, MAYUMI
TITLE OF INVENTION: CNP ANALOG PEPTIDES AND THEIR USE
NUMBER OF SEQUENCES: 42
CORRESPONDENCE ADDRESS:
ADDRESSEE: CUSHWAN, DARBY & CUSHWAN
STREET: 1625 L STREET, N.W.
                                                  APPLICANT: KITAJIMA, YASUO
APPLICANT: FURUYA, MAYUMI
APPLICANT: HATSUO, HISAYUKI
TITLE OF INVENTION: CNP ANALOG PEPTIDES AND THEIR USE
NUMBER OF SECUENCES: 42
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 1; Length 22;
                                                                                                                                                                                                                                                                PatentIn Release #1.0, Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             22 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 41; DB 1; LA Pred. No. 1.48e+02;
                                                                                          CUNTRY. WASHINGTON STREET, N.W. CITY: WASHINGTON STATE: D.C. COUNTRY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       0; Mismatches
                                                                                                                                                                                                                                                                                                                                                          26,581
'P: 9437/94133
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                                                                                                                                                                                                                         5: Floppy disk
IBM PC compatible
3YSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL INFORMATION:
APPLICANT: TANAKA, SHOJI
APPLICANT: MINAMITAKE, YOSHIHARU
                                      MINAMITAKE, YOSHIHARU
KITAJIMA, YASUO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 27, Application US/07828450
Patent No. 5434133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 27, Application US/07828450
                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: SCOTT, WATSON T.
REGISTRATION NUMBER: 26,581
REFERENCE/DOCKET NUMBER: 943:
TELECHONE: 202-81-3067
TELEFERX: 202-81-3067
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LE TYPE: peptide
22 AA; 2369 MW; 2338 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                         TELEX: 6714627 CUSH
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 22 amino acids
                                                                                                                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity 100.0%;
Matches 5; Conservative
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MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                        FILING DATE: 1992013
CLASSIFICATION: 530
                                                                                                                                                                                                                                        COMPUTER: IBM PC
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AMINO ACID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS:
  Patent No. 5434133
GENERAL INFORMATI
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ID US-07-828-450-27
                           APPLICANT:
APPLICANT:
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RESULT ID 52

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                                                                                                                                                                                                                                                APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR PEPTIDE COMPUNDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Patent No. 5212286
APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M.
ATILE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPTIDE COMPUNDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 41; DB 4; L
Pred. No. 1.48e+02;
0; Mismatches 0
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                                                                                                                                                                                                                                                                                                CURRENT APPLICATION DATA:
APPLICATION DATA:
APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-00M-1986
APPLICATION UNBER: 766,030
FILING DATE: 09-APM-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APM-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
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                                                                                        25 AA
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH: 23
SEQUENCE 25 AA; 2768 MW; 3233 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TH: 23
25 AA; 2754 MW; 3345 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 766,030 FILING DATE: 08-MAY-1985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
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Best Local Similarity 100.0%;
Matches 5; Conservative
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Best Local Similarity 100.0%;
Matches 5; Conservative
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                                                                                        STANDARD;
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                                                                                                                                                                                              Patent No. 5212286.
                                                                                                                                                                                                                                 Patent No. 5212286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
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1 NSFRY 5
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                                                                                     5212286-37
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                                                                  RESULT
ID 52
XX
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Pred. No. 1.48e+02;
0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 23;
                                                                                                                                                                                                                               APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR PEPTIDE COMPUNDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: LEWICKI, JOHN A ; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR PEPTIDE COMPUNDS
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
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CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/810,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
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CE 25 AA; 2772 MW; 3366 CN;
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SEQUENCE 25 AA; 2768 MW; 3310 CN;
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APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
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APPLICATION NUMBER: 616,488
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Best Local Similarity 100.0%;
Matches 5; Conservative
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Best Local Similarity 100.0%;
Matches 5; Conservative
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APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M.
TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPTIDE COMPUND.
NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION NUMBER: 766,30
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
SEQ ID NO:44:
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Pred. No. 1.48e+02;
0; Mismatches 0; Indels
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APPLICANT: LEWICKI, JOHN A.;SCARBOROUGH, ROBERT M.
TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
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Pred. No. 1.48e+02;
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NUMBER OF SEQUENCES: 68

CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/870,795

FILING DATE: 05-JUN-1986

PRIOR APPLICATION NUMBER: 766,330

FILING DATE: 08-MAY-1985

APPLICATION NUMBER: 602,117

FILING DATE: 09-APR-1984

APPLICATION NUMBER: 616,488

FILING DATE: 01-JUN-1984
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NCE 25 AA; 2768 MW; 3261 CN;
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ICE 25 AA; 2768 MW; 3317 CN;
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Best Local Similarity 100.0%;
Matches 5; Conservative
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Best Local Similarity 100.0%;
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19 NSFRY 23
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                 1 NSFRY 5
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ID 5212286-45
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TITLE OF INVENTION: The Synthesis of Peptide
TITLE OF INVENTION: Aminoalkylamides and Peptide Hydrazides by the Solid Ph
TITLE OF INVENTION: Aminoalkylamides and Peptide Hydrazides by the Solid Ph
TITLE OF INVENTION: Method
NUMBER OF SEQUENCES: 6
CORRESPONDENCE ADDRESS: ADDRESSE: Finnegan, Henderson, Farabow, Garrett &
ADDRESSEE: Dunner
STREET: 1300 I Street, N.W., Suite 700
CITY: Washington.
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Pred. No. 1.48e+02;
0; Mismatches 0; Indels
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24 AA.
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PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 783,335
FILING DATE: 28-OCT-1991
ATTORNEY/AGENT INFORMATION:
NAME: Lindeman, Jeffrey A.
REGISTRATION NUMBER: 34,658
REFERENCE/DOCKET NUMBER: 02481-05
TELECOMMUNICATION INFORMATION:
TELECHONE: 202-208-4000
PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                            Sequence 5, Application US/08257446 Patent No. 5565606
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JENCE 24 AA; 2552 MW; 2660 CN;
                                                                                                                                      Sequence 5, Application US/08257446
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APPLICANT: Knolle, Jochen
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STANDARD;
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SEQUENCE CHARACTERISTIC
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MEDIUM TYPE: Floppy
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Local Similarity 100.0%;
nes 5; Conservative
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ZIP: 20005-3315
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                                                                          APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M.
TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PETIDE COMPUNDS
NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION NUMBER: 766,030
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
FILING DATE: 01-JUN-1984
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Pred. No. 1.48e+02;
0; Mismatches 0; Indels
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APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M.
AITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPFIDE COMPUNDS
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Pred. No. 1.48e+02;
0; Mismatches 0
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FILING DATE: 05-UNN-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-ARR-1984
APPLICATION NUMBER: 616,488
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ICE 27 AA; 2942 MW; 3718 CN;
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ICE 27 AA; 2942 MW; 3774 CN;
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CURRENT APPLICATION DATA:
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Best Local Similarity 100.0%;
Matches 5; Conservative
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Best Local Similarity 100.0%;
Matches 5; Conservative
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01-JAN-1900
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                                                                Patent No.
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                                        Patent No. 5212286
APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR COMPUNDS
NUMBER OF SEQUENCES: 68
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
C FILING DATE: 05-JUN-1986
C FILING DATE: 08-MAY-1985
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C FILING DATE: 09-APR-1984
C FILING DATE: 07-MAY-1984
C APPLICATION NUMBER: 602,117
FILING DATE: 07-MAY-1984
C APPLICATION NUMBER: 616,488
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Pred. No. 1.48e+02;
0; Mismatches 0; Indels
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FILING DATE: 01-JUN-1984
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Best Local Similarity 100.0%;
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Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University'of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

protein - protein database search, using Smith-Waterman algor thm MPsrch_pp

Wed Jun 16 13:23:15 1999; MasPar time 2.89 Seconds 69.204 Million cell.updates/se Tabular output not generated. Run on:

>US-09-027-777B-3 (1-5) from US09027777B.pep 41

1 NSFRY 5 PAM 150 Gap 15 Description: Perfect Score: Sequence: Scoring table:

122810 segs, 40068593 residues Searched:

Post-processing: Minimum Match 0% Listing first 45 summaries

pir60 1:pir1 2:pir2 3:pir3 4:pir4 Database:

Mean 20.516; Variance 23.884; scale 0.859 Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

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လ	Score	Query	Query Match Length	DB	ΩI	Description	Pred. No.
;	41	100.0	110	7	C71160	hypothetical protein	4.81e+01
	41	100.0	128	~	S14872	atrial natriuretic pe	4.81e+01
	4.1	100.0	137	~	S55915	ribosomal protein L28	4.81e+01
	4.1	100.0	137	٦	R5RT28		4.81e+01
	4.1	100.0	137	~	148738	ribosomal protein L28	4.81e+01
	4.1	100.0	149	٦	AWDG	atrial natriuretic pe	4.81e+01
	4.1	100.0	150	ч	S13107	atrial natriuretic pe	4.81e+01
	4.1	100.0	151	٦	AWHU	natriuretic peptide A	4.81e+01
	4.1	100.0	152	~	AWRT	atrial natriuretic fa	4.81e+01
	4.1	100.0	152	٦	AWBO	atrial natriuretic pe	4.81e+01
	4.1	100.0		-	AWMS	atrial natriuretic pe	4.81e+01
	4.1	100.0		~	S14873	atrial natriuretic pe	4.81e+01
	4.1	100.0	153	Н	AWRB	atrial natriuretic pe	4.81e+01
	4.1	100.0		4	155480	tical natriu	4.81e+01
	4.1	100.0		~	T00602	hypothetical protein	4.81e+01
	4.1	100.0	740	7	JC6010	formate C-acetyltrans	4.81e+01
	4.1	100.0	746	7	665100	formate C-acetyltrans	4.81e+01
	39	95.1	102	7	T02917	hypothetical protein	1.21e+02
	39	95.1	107	7	E71142	hypothetical protein.	1.21e+02
	36	95.1	230	7	F65192		1.21e+02
	39	95.1	240	~	H69926	ribonucleoside-diphos	1.21e+02
	39	95.1	310	~	G70330	ADP-L-glycero-D-manno	1.21e+02
	39	95.1	315	7	H64082	hypothetical protein	1.21e+02

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cathepsin L-like cyst cathepsin L-like cyst	EC 3	proline-tRNA ligase proline-tRNA ligase prolyl-tRNA synthetas	hypothetical protein ribonucleoside-diphos peroxidase (EC 1.11.1 hypothetical protein	catalase (EC 1.11.1.6 myeloperoxidase (EC 1 kinesin homolog KHP1 myeloperoxidase (EC 1	myeloperoxidase (EC 1 ferrichrome iron rece carbamoyl-phosphate s nitric-oxide synthase 3',5'-cyclic-nucleoti
JC5441 JC5442 JC5443	A53810 F69086 H70582	E64454 C69181 H69450	H/1153 B69667 S06068 S40820	S37384 OPHUM A53939 C28894	B28894 S74447 I40169 JC5028 JE0293
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24	7 5 8 7 6 7 8 8 7 6	30 37 37	3 3 3 4 3 5 4 4 3 5 5 4 4 4	37 38 39 40	44444 112,444

ALIGNMENTS

RESULT

S	DATE 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change 14-Aug-1998 #sequence_revision 14-Aug-1998 #text_change ACCESSIONS C71160	s Ra	HIDO, I.; Idmandro, S.; Sekhai, M.; Babas, S.; Nosugi, Hosoyama, A.; Nagai, Y.; Sakai, M.; Ogura, K.; Otsuka Nakazawa, H.; Takamiya, M.; Ohfuku, Y.; Funahashi, T. Tanaka, T.; Kushida, N.; Oguraka, T.; Kushida, N.; Oguraka, A.; Aoki, K.; Yoshizawa, T.; Nakamura, Y.; Robb, F.T. Horikoshi, K.; Masuchi, Y.; Shizuya, H.; Kikuchi, H.	<pre>#journal DNA Res. (1998) 5:55-76 #fitle Complete sequence and gene organization of the genome of a httple hyper-thermophilic archaebacterium, Pyrococcus horikoshil OT3.</pre>	#cross-references MUID:98344137 #accession C71160 #status preliminary; nucleic acid sequence not shown; #status translation not shown	##INOLOULETYPE DNA ##residues 1-110 ##label KAW ##cross-references GB:AP000002; NID:g3236129; PID:d1030511; PID:g3256885 ##experimental_source strain Or3 ##note this accession replaces an interim accession for a sequence replaced by GenBank	GENETICS #gene PH0480 SUMMARX #length 110 #molecular-weight 12260 #checksum 6038	Query Match 100.0%; Score 41; DB 2; Length 110; Best Local Similarity 100.0%; Pred. No. 4.81e+01; Matches 5; Conservative 0; Mismatches 0; Indels 0; Gaps 0;	Db 54 NSFRY 58 Qy 1 NSFRY 5	RESULT 2 \$14872 #type fragment ENTRY atrial natriuretic peptide precursor - guinea pig (fragment) ORGANISM #formal_name Cavia porcellus #common_name guinea pig
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Gaps

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#authors

105-121

SUMMARY

Matches

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1-98 99-128

ACCESSIONS REFERENCE

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ructure of dog and rabbit precursors of atrial natriuretic polypeptides deduced from nucleotide sequence of cloned
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                           #formal_name Mus musculus #common_name house mouse 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 148738
                                                                                                                                                                                                   #product ribosomal protein L28 #status experimental
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ANP: atrial natriuretic polypeptide
#formal_name Canis lugus familiaris #common_name dog
31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
                                                                                                                                                                                                                      #label MAT
#length 137 #molecular-weight 15849 #checksum 7501
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#length 137 #molecular-weight 1573 #checksum 6283
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Blochem. Blophys. Res. Commun. (1985) 132:892-899
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Burke, P.S.; Llum, E.; Lln, C.S.; Wolgemuth, D.J. Gene (1994) 142:135-316
Sequence and expression of a cDNA encoding the mc
homologue of the rat ribosomal protein L28.
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                  ##molecule_type mRNA
##residues 1-137 ##label WOO
##cross-references EMBL:X52619; NID:g57112; PID:g57113
                                                                           cession A30448
##molecule_type protein
##residues
2-13,65-94,109-137 ##label W02
FICATION #superfamily rat ribosomal protein L28
DS protein biosynthesis; ribosome
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##molecule_type mRNA
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# journal Biochim. Blophys. Acta (1995) 1262:64-68
# title Cloning, sequencing and expression of the L5, L21, L27a, L28, S5, S9, S10 and S29 human ribosomal protein mRNAs.
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Blophys. Acta (1990) 1150:69-73
The primary structure of rat ribosomal proteins: the amino acid sequences of L27a and L28 and corrections in the
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#formal_name Rattus norvegicus #common_name Norway rat
30-Jun-1991 #sequence_revision 30-Jun-1991 #text_change
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#formal_name Homo sapiens #common_name man
28-oct-1995 #sequence_revision 03-Nov-1995 #text_change
25-Mar-1998
S55915
                                                            G.; Teuteberg, K.;
                                                                                                                                                                                                                      *superfamily natriuretic peptide A precursor atrium; diuretic; hormone; natriuretic; osmoregulation
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                                                        Maegert, H.J.; Hanke, M.; Schmeding, G.; Teute
Schulz-Knappe, P.; Forssmann, W.G.
submitted to the EMBL Data Library, March 1991
S14872
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Pred. No. 4.81e+01;
0; Mismatches 0; Indels
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Pred. No. 4.81e+01;
0; Mismatches 0; Indels
                                                                                                                                                    ##residues
1.128 ##label MAE
##cross-references EMBL:X58562; NID:g49543; PID:g49544
##experimental_source heart atria; adult
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#length 137 #molecular-weight 15761
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21-Nov-1993 #sequence_revision 14-Jul-1994 #text_change
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#journal Nucleic Acids Res. (1990) 18:6704
#title Nucleotide sequence of a porcine prepro atrial natriuretic peptide (ANP) cDNA.
#cross-references MUID:91067478
                                                                                                                                                                                                                                                                                                                                                                                                                                                              $13107  #type complete
#trial natriuretic peptide precursor - pig
alpha atrial natriuretic peptide; gamma atrial natriuretic
factor (cardiodilatin)
                                                                                               #domain signal sequence #status predicted #label SIG\
#product gamma atrial natriuretic factor #status
predicted #label ANF\
#product alpha atrial natriuretic peptide #status
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##residues 1-149 ##label OIK ##cross-references GB:MIJO945; NID:g163900; PID:g163901 CLASSIFICATION #superfamily natriuretic peptide A precursor KEYWORDS atrium; diuretic; hormone; natriuretic; osmoregulation
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##cross-references EMBL:X54669; NID:g1883; PID:g1884
PACE A60899
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Matches 5: Concern
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prepronatriodilatin (PND)
atrial alpha natriuretic peptide (ANP); cardiodilatin (atrial gamma natriuretic factor)
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#title Purification and complete amino acid sequence of alpha-human atrial natriuretic polypeptide (alpha-hANP).
#cross-references MUID: 84128019
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1-151, 'RR' ##label NE2 allelic variant with UGA termination codon replaced by
natriuretic peptide A precursor - human
ANF; atrial natriuretic factor; atrial natriuretic protein;
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Wakazato, H.; Kangawa, K.; Fukuda, A.; Matsuo, H.
#journal Nature (1984) 309:724-726
#title Cloning and sequence analysis of cDNA encoding a precursor for human attrial natriuretic polypeptide.
#cross-references WUID:84219799
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mRNA sequence for human cardiodilatin atrial natriuretic
factor precursor and regulation of precursor mRNA in rat
                                                                                                                                                                 #formal_name Homo sapiens #common_name man
15.Nov-1984 #sequence_revision 15-Nov-1984 #text_change
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Nucleotide sequences of the human and mouse atrial
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vanneste, Y.; Michel, A.; Deschodt-Lanckman, M.
Eur. J. Biochem. (1991) 196:281-286
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##cross-references GB:M30262; NID:g180181; PID:g180182
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##residues 1-151 ##label OIK
##cross-references GB:K02043; NID:9178629; PID:9178630
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##cross-references GB:X01470; NID:928687; PID:9825625
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##cross-references GB:K02043
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##residues 124-151 ##label KAN
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#cross-references MUID:85061626
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Homcy, C.J.; Duby, A.D.; Choi, E.; Graham, R.M.; Seidman,
                                                                                                                                                                                                                                                                                                                                                                                                                                           #authors Maki, M.; Parmentier, M.; Inagami, T.
#journal Blochem. Blochhys. Res. Commun. (1984) 125:797-802
#title Cloning of genomic DNA for human atrial natriuretic factor.
#cross-references WUID:85096983
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*title Hydrclysis of intact and Cys-Phe-cleaved human atrial
natriuretic peptide in vitro by human tissue kallikrein.
*cross-references MUID:91176998
*accession S14097
                                                                          *authors Zivin, R.A.; Condra, J.H.; Dixon, R.A.; Seidah, N.G.; Chretien, M.; Nemer, M.; Chamberland, M.; Drouin, J. *journal Proc. Natl. Acad. Sci. U.S.A. (1984) 81:6325-6329 Molecular cloning and characterization of DNA sequences encoding rat and human atrial natriuretic factors.
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Molecular studies of the atrial natriuretic factor gene
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*product cardiodilantin #status predicted #label C
*product atrial alpha natriuretic peptide #status
*experimental #label ANP\
#disulfide_bonds #status experimental
#disulfide_bonds #status experimental
#th 151 #molecular-weight 16395 #checksum 3644
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*superfamily natriuretic peptide A precursor
atrium; diuretic; hormone; natriuretic; osmoregulation
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Nucleotide sequence of the gene encoding human atrial
natriuretic factor precursor.
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##residues 26-151 ##label RES
##cross-references EMBL:X01471; NID:928690
VT Cardiodilantin Es a vasoconstrictor but not a diuretic or
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Pred. No. 4.81e+01;
0; Mismatches 0; Indels
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##cross-references GB:K02044; NID:9178631; PID:9178632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ##residues 1-64,'D',66-151 ##label RE4 ##cross-references GB:M54951; NID:q178636; PID:q178638
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##cross-references GB:K02399; NID:9178633; PID:9178634
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##cross-references GDB:118727; OMIM:108780
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toross-references MUID:85061627
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Best Local Similarity 100.0%;
Matches 5; Conservative
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##residues 1-6
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Nature (1984) 309:717-719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Cloning and sequence analysis of the cDNA for the rat atrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Structure of rat atrial natriuretic factor precursor deduced
                                                                                                                                                                                                                                                                                            #authors Argentin, S.; Nemer, M.; Drouin, J.; Scott, G.K.; Kennedy, B.P.; Davies, P.L. #journal J. Biol. Chem. (1985) 260:4568-4571 #title The gene for rat arrial natriuretic factor. #cross_references_MUID:85182558
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Seidman, C.E.; Duby, A.D.; Choi, E.; Graham, R.M.; Haber,
Homcy, C.; Smith, J.A.; Seldman, J.G.
Science (1944) 225:324-326
The structure of rat preproatrial natriuretic factor as
defined by a complementary DNA clone.
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                                                                                                           #formal_name Rattus norvegicus #common_name Norway rat
19-Feb-1994 #sequence_revision 15-Nov-1984 #text_change
26-Feb-1999
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##residues 1-152 ##label MAK
##cross-references GB:X00665; EMBL:X00658; NID:955711; PID:955712
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##residues 1-152 ##label SEI
##cross-references GB:K02062; GB:K02063; NID:g202899; PID:g202900
NCE A93330
                                                       natriuretic peptide; atriopeptin I; atriopeptin II; auriculin A; auriculin B; preprocardionatrin
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Nature (1984) 309:719-722
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Tibbetts, C.; Inagami, T.
                                                                                                                                                                                                                 A22570; A01425; A93332; A43617; A93330; A94275; I
A20973; A44190; A60390; I59094; I58057; I52678
atrial natriuretic factor precursor - rat
ANF(1-33); ANF(2-33); ANF(3-33);
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##residues 1-152 ##label ARG
##cross-references GB:K02062; NID:9202899; PID:9202900
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##residues 1-152 ##label YAM
##cross-references EMBL:X00665; NID:955711; PID:955712
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*cross-references MUID:84219797
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A94275
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Nature (1984) 309:722-72
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*accession A93330
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Thibault, G.; Murthy, K.K.; Gutkowska, J.; Séidah, N.G.;
Lazure, C.; Chretien, M.; Cantin, M.
Peptides (1988) 9:47-53
NH2-terminal fragment of rat pro-atrial natriuretic factor in
the circulation: identification, radioimmunoassay and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Seidah, N.G.; Lazure, C.; Chretien, M.; Thibault, G.; Garcia, R.; Cantin, M.; Genest, J.; Nutt, R.F.; Brady, S.F.; Lyle, T.A.; Paleveda, W.J.; Colton, C.D.; Ciccarone, T.M.; Veber,
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#title Identification of atrial natriuretic factor gene transcripts in the central nervous system of the rat.
#cross-references MOID:87175656
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Currie, M.G.; Geller, D.M.; Cole, B.R.; Siegel, N.R.; Fok, K.F.; Adams, S.P.; Eubanks, S.R.; Galluppi, G.R.; Needleman, P. Science (1984) 223:67-69
Surification and sequence analysis of bioactive atrial peptides (atriopeptins).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Belcourt, D.; Varma, D.R.; Toney, K.; Bennett, H.P.J. Protein Expr. Purif. (1990) 1.28-32.
Purification of rat pro-atrial narriuretic factor: a simplified scheme using reversed-phase high-performance
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Sakuragawa, Y.; Nakazato, H.; Fukuda, A.; Minamino, N.;
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Lewicki, J.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #journal Proc. Natl. Acad. Sci. U.S.A. (1984) 81:2640-2644
#title Amino acid sequence of homologous rat atrial peptides:
natriuretic activity of native and synthetic forms.
#cross-references MID:84194062
#accession A20973
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##residues 25-28,'X',30-31,'X',33,'X',35-38 ##label THI
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Science (1985) 228:323-325
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##residues 118-150 ##label SE2
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#cross-references MUID:93044510
#accession A60100
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##residues 1-152 ##label FLY
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##residues 25-39 ##label BEL
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*accession PT0061
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##molecule_type mRNA
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#product ANF(1-33) #status experimental #label ANFI\
#product ANF(2-33) #status experimental #label ANFZ\
#product ANF(3-33) #status experimental #label ANFZ\
#product cardionarin I #status experimental #label CNI\
#product Cardionarin I #status experimental #label CNI\
#product anriculin B #status experimental #label ANF4\
#product auriculin B #status experimental #label ANBA\
#product auriculin A #status experimental #label AUB\
#product auriculin A #status experimental #label AUB\
#product atrial natriuretic factor #status predicted
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#product atriopeptin II #status experimental #label AT2\
#disulfide_bonds #status experimental
                                                                                                                                                                                                                                                                                                                                                                                                           ##residues 1.51,/x',53-85,/x',87-152 ##label RE3
##cross-references GB:M27498; NID:g202905; PID:g202906
#T A disulfide bond is required for full activity of atriopeptins.

T Several active peptides may be derived from the carboxyl region of this precursor.
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#product pro-atrial natriuretic factor #status
experimental #label PRO\
#product cardionatrin IV #status experimental #label
#title Identification of rat gamma atrial natriuretic polypeptide
and characterization of the cDNA encoding its precursor.
#cross-references MUID:85061500
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#journal Blochem. Blophys. Res. Commun. (1986) 136:396-403
#title Structure and analysis of the bovine atrial natriuretic peptide precursor gene.
#cross_references MuID:86215205
#accession A90124
                                                                                                                                                                                                                             #authors Flynn, T.G.
#journal Can. J. Physiol. Pharmacol. (1987) 65:2013-2020
#title the elucidation of the structure of atrial natriuretic factor, a new peptide hormone.
#cross-references MUID:88109092
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                                                         ong, H.; McNicoll, N.; Lazure, C.; Seidah, N.; Chretien, M.;
Cantin, M.; De Lean, A.
Life Sci. (1986) 38:1309-1315
Purification and sequence determination of bovine atrial
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#product gamma atrial natriuretic factor #status
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*superfamily natriuretic peptide A precursor
atrium; diuretic; hormone; natriuretic; osmoregulation
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Seidman, J.G.
Science (1984) 226:1206-1209
#fille Nucleotide sequences of the human and mouse atrial
matriuretic factor genes.
#cross-references MUID:85065766
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0; Mismatches 0; Indels
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Pred. No. 4.81e+01;
0; Mismatches 0; Indels
##molecule_type DNA
##residues 1-152 ##label VLA
##cross-references GB:M13145; NID:g162665; PID:g162666
ENCE A93049
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##cross-references GB:K02781; NID:9191937; PID:9387099
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##residues 123-150 ##label ONG
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H.; Matsuo, H.
Blochm. Blochm. Brophys. Res. Commun. (1985) 132:892-899
Structure of dog and rabbit precursors of atrial natriuretic
polypeptides deduced from nucleotide sequence of cloned
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#product gamma atrial natriuretic factor #status
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#product alpha atrial natriuretic peptide #status
predicted #label ANP\
#disulfide_bonds #status predicted
#length 153 #molecular-weight 16843 #checksum 7650
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ANP: atrial natriuretic polypeptide
#formal_name Oryctolagus cuniculus #common_name domestic
rabbit
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$14873 *type complete atrial natriuretic peptide precursor - horse stormal_name Equus caballus *common_name domestic horse 20-Peb-1995 *text_change
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##residues 1-153 ##label OIK
##cross-references GB:M12046; NID:g164770; PID:g164771
CLASSIFICATION #superfamily natriuretic peptide A precursor
KEYWORDS atrium; diuretic; hormone; natriuretic; osmoregulation
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#accession B25302
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Matches 5; Conservative
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hypothetical natriuretic peptide/phage fr coat protein mutant fusion protein - synthetic #formal_name synthetic #formal_name synthetic was sapiens (man) and phage fr genes engineered and expressed in Escherichia coli 02-Jul-1996 #sequence_revision 05-Sep-1996 #text_change 155480
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J. Biotechnol. (1993) 30:231-243
High level expression of alpha-human atrial natriuretic factor as a fusion polypeptide with phage fr coat protein in Escherichia coli.
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Brandon, R.C.; Sykes, S.M.; Kaul, S.; Mason, T.M.;
Kerlavage, A.R.; Adams, M.D.; Somerville, C.R.; Venter,
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hypothetical protein T8K22.8 - Arabidopsis thaliana
#formal_name Arabidopsis thaliana #common_name mouse-ear
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#length 635 #molecular-weight 72049 #checksum 1480
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Arabidopsis thaliana chromosome II BAC T8K22 genomic
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##cross-references GB:S66567; NID:g435742; PID:g435743
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ty #length 161 #molecular-weight 17287 #checksum 337
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protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed Jun 16 13:23:46 1999; MasPar time 2.01 Seconds 70.179 Million cell updates/Bec Run on:

Tabular output not generated.

>US-09-027-777B-3 (1-5) from US09027777B.pep 41 Title:

1 NSFRY 5 Description: Perfect Score: Sequence:

77977 segs, 28268293 residues PAM 150 Gap 15 Searched:

Scoring table:

Post-processing: Minimum Match 0% Listing first 45 summaries

swiss-prot37 1:swissprot Database:

Mean 21.108; Variance 20.967; scale 1.007 Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

128	% Query Match
RL28_MOUSE RL28_MOUSE RL28_RAT ANF_CANFA ANF_ENG ANF_MOUSE ANF_MOUSE ANF_MOUSE ANF_RAT ANF_RAT ANF_RAT ANF_RAT ANF_HOMAN ANF_HOMSE ANF_HOMSE ANF_HOMSE ANF_HOMSE ANF_HOMAN SYP_METTA SYP_METTA	0.001
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ANF_CANFA	0
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PERM_HUMAN	CARB_BACCL	HEX8_ADE12	IAP1_NPVOP	PROC_CAEEL	RIR2_LEIAM	Y47K_BPCHP	NADR_SALTY	NADR_ECOLI	CAMA_PSEPU	Y114_NPVAC	DSDR_FUGRU	INI6_HUMAN	VGLH_HSVMD	TETX_CLOTE	CA1C_CHICK	ZF37_MOUSE	Z184_HUMAN	YBV2_YEAST	YE86_SCHPO	YOO5_CAEEL
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24	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

RESULT 1 ID ANF_CAVPO STANDARD; PRT; 128 AA. AC P27596;		ATRIAL NATRIURETIC (ANP) (PREPRONATRI			OC RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA. RN (1)	RP SEQUENCE FROM N.A. TISSHE-HARR APRIM		KA SCHULZ-KNAPPE F., FUKSSMANN W.G.; RL SUBMITTED (MAR-1991) TO EMBL/GENBANK/DDBJ DATA BANKS.	-! - FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE	CC SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A CC KEY ROLE IN CARDIOVASCULAR HOMEDSTASIS. HAS A CRMP-STIMULATING		-		CC -: SIMILARITY: BELONGS TO THE NATRIORETIC PEPTIDES FAMILY.		between the Swiss Institute of Bioinformatics and the EMBL outstati	European Bioinformatics Institute. There are no restrictions on	modi modi	entities requires a license agreement (See 1	<pre>CC or send an email to license@isb-sib.ch).</pre>				DR PFAM; PF00212; ANP; 1.		PEPTIDE 1 30	FT PEPTIDE 99 126 ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).	SEQUENCE 128 AA; 13966 MW;
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Query Match 100.0%; Score 41; DB 1; Length 128; Best Local Similarity 100.0%; Pred. No. 1.76e+01;

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Query Match
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Matches 5; Conservative
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MEDLINE; 95290496.

REDILINE; 95290496.

FRIGERIO J.M., DAGORN J.C., IOVANNA J.L.;

"Cloning, sequencing and expression of the L5, L21, L27a, L28, S5, S9, S10 and S29 human ribosomal protein mRNAs.";

BIOCHIM. BIOPHYS. ACTA 1262:64-68(1995).
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"Sequence and expression of a cDNA encoding the mouse homologue o
"Labosomal protein L28.";
GENE 142:315-316(1994)
--- SIMILARITY: BELONGS TO THE L28E FAMILY OF RIBOSOMAL PROTEINS.
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EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HOMO SAPIENS (HUMAN).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
PRIMATES; CATARRHINI: HOMINIDAE; HOMO.
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(D RL28_MOUSE STANDARD; PRT; 136 AA.)

(C P41105;
(T 01-FEB-1995 (REL. 31, CREATED)

(T 01-FEB-1995 (REL. 31, LAST SEQUENCE UPDATE)

(01-NOV-1995 (REL. 32, LAST ANNOTATION UPDATE)

60S RIBOSOMAL PROTEIN L28.
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75D1BB8F CRC32;
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AC PG 779;
DT 01-NOV-1995 (REL. 32, CREATED)
DT 01-NOV-1995 (REL. 34, LAST SEQUENCE UPDATE)
DT 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DF 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
DF 01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
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ANE_CANEA STANDAED; PRT; 149 AA.

P07499;
01-APR-1988 (REL. 07, CREATED)
01-APR-1998 (REL. 07, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE FROM N.A., AND PARTIAL SEQUENCE.
STRAIN-SPRAGUE-DAWLEY; TISSUE-LIVER;
MEDLINE; 91002678.
MOOL I.G., CHAN Y.-L., PAZ V., OLVERA J.;
"The primary structure of rat ribosomal proteins: the amino acid sequences of L27a and L28 and corrections in the sequences of S4 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BIOCHIM. BIOPHYS. ACTA 1050:69-73(1990).
-!- SIMILARITY: BELONGS TO THE L28E FAMILY OF RIBOSOMAL PROTEINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ö
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EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATIUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                Length 136;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 41; DB 1; Length 136;
Pred. No. 1.76e+01;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                            Score 41; DB 1; L4
Pred. No. 1.76e+01;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                 BY SIMILARITY.
ECEC217C CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                15717 MW; 99E77527 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01.AUG-1990 (REL. 15, CREATED)
01.FRE1-1991 (REL. 17, LAST SEQUENCE UPDATE)
01.NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
60S RIBOSOMAL PROTEIN 128.
                                                                                                                                                                                                                                                                                                                                                               136 AA; 15602 MW;
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myocardiocytes of the heart
                                                                                                                                                                                                                                                                                                                                                   150 AA;
                                                                                                                                                                                                                                                                           VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A.
MEDLINE; 85065766.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (REL.
                                                                                                                                                                                                                                                                                                                                                                                                                           146 NSFRY 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                1 NSFRY 5
                                                                                 ACTIVITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   13-AUG-1987
01-OCT-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ANF_MOUSE
P05125;
                                                                                                                                                                                                                                                                                                                                      DISULFID
                                                                                                                                                                                                                                                                                                      PEPTIDE
                                                                                                                                                                                                                                                                                                                            PEPTIDE
             organ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ANP)
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  STITE TERMINE
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01-MAR-1992 (REL. 21, LAST SEQUENCE UPDATE)
01-CCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                     PLAY A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE; 85124561.
FORSCHAIN W., CHRISTMANN M., FINKE R.,
HENSCHEN A., HOCK D., KIRCHHEIM H., KREYE V., LOTISPEICH F., METZ J.,
MUTT V., REINECKE M.;
                                                                                                                  polypeptides deduced from nucleotide sequence of cloned cDNA.";
BIOCHEN, BIOCHEN, BIOPHYS. RES. COMMUN. 132:892-899(1985).
-!- FUNCTION: ATRIAL NATEURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY P
                                                                                                                                                                                                                                                                                                                                                                                                  ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MAEGERT H.J., APPELHANS H., GASSEN H.G., FORSSMANN W.G.;
"Nucleotide sequence of a porcine prepro atrial natriuretic peptide
(ANP) CDNA.";
                                                                                                                                                                                        A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                  KEY ROLE IN CARDIOVASCULAR HOMBOSTASIS. HAS A CGMP-STIMULATING
                                                                                          OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO "Structure of dog and rabbit precursors of atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ö
                     CANIS FAMILIARIS (DOG).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 41, DB 1; Length 149;
Pred. No. 1.76e+01;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                         15819 MW; D4F3A6CF CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      150 AA.
                                                                                                                                                                                                                                                                                                                                                 PROSITE: PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           UCLEIC ACIDS RES. 18:6704-6704(1990).
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ANP) (PREPRONATRIODILATIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                100.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FISSUE-HEART RIGHT ATRIUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TISSUE-HEART RIGHT ATRIUM;
                                                                                                                                                                                                                                                                                                                         EMBL; M12045; G163901; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                        149 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQUENCE OF 25-150
                                                                  SEQUENCE FROM N.A. MEDLINE; 86076957.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDLINE: 91067478
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             145 NSFRY 149
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NSFRY 5
                                                                                                                                                                                                                                                                                                                                                                                                PEPTIDE
DISULFID
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ANF_PIG
P24259;
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ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                        -1- A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -1--A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
heart constitute an endocrine cardiac peptide hormone,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CARDIODILATIN-RELATED PEPTIDE (CDP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               'Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ö
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SEIDMAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDMAN J.G.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 41; DB 1; Length 150;
Pred. No. 1.76e+01;
0; Mismatches 0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LAST SEQUENCE UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BY SIMILARITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PIR; S13107; S13107.
PROSITE; PSG0263; NATRIURETIC_PEPTIDE; 1.
PFAM; PFG0212; ANP; 1.
                           Characterization of a porcine
                                                 cardiodilatin-126.";
CELL TISSUE RES. 238:425-430(1984)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          13-AUG-1987 (REL. 05, CREATED)
13-AUG-1987 (REL. 05, LAST SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              16351 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (PREPRONATRIODILATIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EMBL; X54669; G1884; -.
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54
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146 NSFRY 150
                                                                                    1 NSFRY 5
DISULFID
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ANF_RAT
P01161;
                                                Matches
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                                                                                                                                                                                                                                            ANF_BOVIN STANDARD; PRT; 152 AA.
P07501,
01-APR-198 (REL. 07, CREATED)
01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
01-CT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 "Purification and sequence determination of bovine atrial natriuretic factor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PLAY A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A DISCLEIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE, 86173941.
ONG H., MCNICOLL N., LAZURE C., SEIDAH N., CHRETIEN M., CANTIN M., DE LEAN A.;
                                                                                                                                                                                                                                                                                                                          BOS TAURUS (BOVINE).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; BOVINAE; BOS.
                                                                                                                                                                                                                                                                                                                                                                                    VLASUK G.P., MILLER J., BENCEN G.H., LEWICKI J.A.; "Structure and analysis of the bovine atrial natriuretic peptide
                                                                                                                                                                  ö
                                                                            AURICULIN A (BY SIMILARITY).
AURICULIN B (BY SIMILARITY).
ATRIOPEPTIN I (BY SIMILARITY).
BY SIMILARITY.
5163CB23 CRC32;
                                                                                                                                     Score 41; DB 1; Length 152;
Pred. No. 1.768+01;
...arthes 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                        precursor gene.";
BIOCHEM. BIOPHYS. RES. COMMUN. 136:396-403(1986).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PROSITE: PS00263; NATRIURETIC_PEPTIDE: 1.
PFAM; PF00212; ANP; 1.
                   PIR; A29370; AWMS.
MGD; MGI:97367; NPPA.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212; ANP; 1.
                                                                                                                             Ξ.
                                                                                                                                             Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EMBL; M13145; G162666; -
         EMBL; K02781; G387099; -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       24
150
                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 123-150.
                                                                                     126
127
127
129
159 11
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                                                         VASOACTIVE: SIGNAL. SIGNAL 1
                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. MEDLINE; 86215205.
                                                                                                                                                                                    146 NSFRY 150
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1 NSFRY 5
                                                                                                                                                                                                                                                                                                                                                                                                       precursor
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DISULFID
SEQUENCE
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PEPTIDE
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21-JUL-1986 (REL. 01, LAST SEQUENCE UPDATE)
15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN) (CONTAINS: AURICULINS; ATRIOPEPTINS).
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MEDILINE; 84550178.
MEDILINE; 84550178.
SEIDMAN C.E., DOBY A.D., CHOI E., GRAHAM R.M., HABER E., HOMCY C.,
SMITH J.A., SEIDMAN J.G.;
"The structure of rat preproatrial natriuretic factor as defined by
cCIMPDementary DNA clone.";
SCIENCE 225:324-326(1984).
                                                                                                                                         Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Structure of rat atrial natriuretic factor precursor deduced from
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A..
MEDILIB: 84219797.
YAMANAKA M., GREENBERG B., JOHNSON L., SEILHAMER J.J., BREWER M..
FRIEDEMANN T., MILLEF J., ATLAS S.A., LARAGH J., LEWICKI J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KANGAWA K., TAWARAGI Y., OIKAWA S., MIZUNO A., SAKURAGAWA Y., NAKAZHO H., FUKUDA A., NINAMINO N., MATSUO H. TO "Identification of rat gamma atrial natiuretic polypeptide and characterization of the CDNA encoding its precursor.";
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FIDDES J.C.; "Cloning and sequence analysis of the cDNA for the rat atrial natriuretic factor precursor."; NATURE 309:719-722(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MAKI M., TAKAYANAGI E., MISONO K.S., PANDEY K.N., TIBBETTS C. INAGAMI T.;
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MEDILNE: 8518258.
ARGENTIN S., NEMER M., DROUIN J., SCOTT G.K., KENNEDY B.P.,
DAVIES P.L.;
                                                                             Length 152;
                                                                                                                                         0; Indels
                                                                             Score 41; DB 1; L
Pred. No. 1.76e+01;
0; Mismatches 0
145
16518 MW; CF200882 CRC32;
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                                                                                                                                                                                                                                                                                                                                                                     152 AA
                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                             Query Match
Best Local Similarity 100.0%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          cDNA sequence.";
NATURE 309:722-724(1984).
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                                                                                                                                         5; Conservative
                                                                                                                                                                                                                                                                                                                                                                        STANDARD;
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129 1
152 AA;
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DISULFID
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PEPTIDE
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                                                                                                                                                                                                                                                                                                                                                                                                                                     MEDLINE; 84194062.
SEIDAH NG., LAZURE C., CHRETIEN M., THIBAULT G., GARCIA R.,
CANTIN M., GENEST J., NUTT R.F., BRADY S.F., LYLE T.A., PALEVEDA W.J.,
COLTON C.D., CICCARONE T.M., VEBER D.F.; rial peptides: natriuretic
activity of native and synthetic forms.";
PROC. NATL. ACAD. SCI. U.S.A. 81:2640-2644(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                              MEDLINE: 84219796.
ATLES S.A., KLEINERT H.D., CAMARGO M.J., JANUSZEWICZ A., SEALEY J.E., LARAGH J.H., SCHILLING J.W., LEWICKI J.A., JOHNSON L.K., MAACK T.; "Purification, sequencing and synthesis of natriuretic and vasoactive
                                         elucidation of the structure of atrial natriuretic factor, a new
                                                                                             SEQUENCE OF 38-152 FROM N.A.
MEDLINE: 87175536.
GARDNER D.G., VLASUK G.P., BAXTER J.D., FIDDES J.C., LEWICKI J.A.;
"Identification of atrial natriuretic factor gene transcripts in the
central nervous system of the rat.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MEDLINE; 88203350.
THIBAULT G., MURTHY K.K., GUTKOWSKA J., SEIDAH N.G., LAZURE C., CHRETIEN M., CANTIN M.;
"NH2-terminal fragment of rat pro-atrial natriuretic factor in the circulation: identification, radioimmunoassay and half-life.";
PEPTIDES 9:47-53(1988).
                                                                                                                                                                                                                                                                                                                       MEDLINE; 84097513.
CURRIE M.G., GELLER D.M., COLE B.R., SIEGEL N.R., FOK K.F.,
ADAMS S.P., EUBANKS S.R., GALLUPPI G.R., NEEDLEMAN P.;
"Purification and sequence analysis of bioactive atrial peptides
                                                                                                                                                                   PROC. NATL. ACAD. SCI. U.S.A. 84:2175-2179(1987).
                                                                                                                                                                                              AURICULINS, SEQUENCE, AND SYNTHESIS OF 126-149. MEDLINE: 84219796.
                                                                      CAN. J. PHYSIOL. PHARMACOL. 65:2013-2020(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
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                                                                                                                                                                                                                                                                                                            SEQUENCE OF 127-149, AND SYNTHESIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; M15868; G202904; -.
                                                                                                                                                                                                                                                                rat atrial peptide.";
NATURE 309:717-719(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EMBL; X00665; G55712; -. EMBL; X02062; G202900; - EMBL; X01118; G55717; -. EMBL; M27498; G202906; -
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149
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PIR; A44190; A44190.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE OF 25-38.
  SEQUENCE FROM N.A. MEDLINE; 88109092.
               88109092.
                                                         peptide hormone.
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                              FLYNN T.G.;
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                                                                                                                                                                                                                                                                                                                                                                                                                     01-APR-1988 (REL. 07, CREATED)
01-APR-1988 (REL. 07, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
MEDLINE: 86076957.

OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO H.;
Structure of dog and rabbit precursors of atrial natriuretic
polypeptides deduced from nucleotide sequence of cloned cDNA.";
BIOCHEM. BIOPHYS. RES. COMMUN. 132:892-899(1985).
-!- FUNCTION: ATRIAL NATRIURFITC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A
REY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP)
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EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 41; DB 1; Length 153;
Pred. No. 1.76e+01;
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                                                                                                                                                    Length 152;
                                                                                                                                                                                                0; Indels
                                                                                                                                                    Score 41; DB 1; L
Pred. No. 1.76e+01;
0; Mismatches 0
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AURICULIN B.
ATRIOPEPTIN I.
ATRIOPEPTIN II.
ATRIOPEPTIN III.
                                                                                                           2D424B75 CRC32;
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ANE-HUMAN STANDARD;
A01-10160;
21-JUL-1986 (REL. 01, CREATED)
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similarity 100.0%;
5; Conservative
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147
149
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126
127
127
127
129
152 AA;
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Best Local Similarity
Matches 5; Conser
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1 NSFRY 5
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PROSITE; PSO
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P07500;
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PDB; 1ANP;
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P27104;
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DISULFID
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SEQUENCE
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EMBL;
PIR; A
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13-AUG-1987 (REL. 05, LAST SEQUENCE UPDATE)
15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
ATRIAL MATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(AND) (PREPRONATRIODILATIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rat
                                                                                                           MEDILNE: 84219799.

OIKAWA S., IMAI M., UENO A., TANAKA S., NOGUCHI T., NAKAZATO H.,

RANGAWA K., FUKUDA A., MATSUO H.;

"Cloning and sequence analysis of cDNA encoding a precursor for human
atrial natriuretic polypeptide.";

NATURE 309:724-726(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KANGAWA K., MATSUO H.;
"Purification and complete amino acid sequence of alpha-human atrial natriuretic polypeptide (alpha-hANP).";
BIOCHEM. BIOPHYE. RES. COMMUN. 118:131-139(1984).
                                                                                                                                                                                                                                                                                                                                                                                            "Nucleotide sequence of the gene encoding human atrial natriuretic
factor precursor.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ZIVIN R.A., CONDRA J.H., DIXON R.A.F., SEIDAH N.G., CHRETIEN M., NEMER M., CHAMBERLAND M., DROUIN J.,
                                                                                                                                                                                                             NAKAYAMA K., OHKUBO H., HIROSE T., INAYAMA S., NAKANISHI S.; "mRNA sequence for human cardiodilatin-atrial natriuretic factor precursor and regulation of precursor mRNA in rat atria."; NATURE 310:699-701(1884).
                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE OF 1-151 FROM N.A.
MEDLIAE, 85065766.
SELDMAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDMAN J.G.;
"Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRUCTURE BY NMR OF 124-151 MUTANT SELECTIVE FOR NPR-C RECEPTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              "Cloning of genomic DNA for human atrial natriuretic factor.";
BIOCHEM. BIOPHYS. RES. COMMUN. 125:797-802(1984);
                                                       HOMO SAPIENS (HUMAN).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
                                                                                                                                                                                                                                                                                            S., DROUIN J.,
                                                                                                                                                                                                                                                                                                                                                          SEQUENCE OF 1-151 FROM N.A.
MEDLINE: 85061627.
GREENBERG B.D., BENCEN G.H., SEILHAMER J.J., LEWICKI J.A.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBMITTED (MAY-1998) TO EMBL/GENBANK/DDBJ DATA BANKS
                                                                                                                                                                                                                                                                                        NEMER M., CHAMBERLAND M., SIROIS D., ARGENTIN S., D
DIXON R.A.F., ZIVIN R.A., CONDRA J.H.,
"Gene structure of human cardiac hormone precursor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              and human atrial natriuretic factors.";
PROC. NATL. ACAD. SCI. U.S.A. 81:6325-6329(1984)
                                                                             PRIMATES; CATARRHINI; HOMINIDAE; HOMO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85096983.
PARMENTIER M., INAGAMI T.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 118-153 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             factor genes.";
SCIENCE 226:1206-1209(1984).
                                                                                                                                                                                                                                                                    SEQUENCE OF 1-151 FROM N.A. MEDLINE; 85061626.
                                                                                                                                                                                         SEQUENCE OF 1-151 FROM N.A. MEDLINE; 84295577.
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                                                                                                                                                                                                                                                                                                                                                                                                                  factor precursór.";
NATURE 312:656-658(1984).
                                                                                                                                                                                                                                                                                                                            oronatriodilatin.";
NATURE 312:654-656(1984)
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01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                 -:- THE HUMAN GENOME CONTAINS 2 DIFFERENT PREPRONATRIODILATIN GENES ONE CODES FOR 2 ARG REGIDUES AT THE C-TERMINUS THAT ARE CLEAVED TO FORM THE MATURE PEPTIDE, WHILE THE OTHER ENDS IN A TERMINATION CODON IMMEDIATELY AFTER THE LAST CODON OF THE MATURE EPTIDE.
-:- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN-ADAMITICUS; TISSUE-HEART ATRIUM;
MAEGERT H.J., RICHTER R., SCHMAEDING G., FORSSMANN W.G.;
SUBMITIED (MAR.1991) TO ENBL/GENBANK/DDBJ DATA BANKS.
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE
                                                                                                                                          -!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY REY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CARDIODILATIN-RELATED PEPTIDE (CDP)
MEDLINE; 94318633.
FAIRBROTHER W.J., MCDOWELL R.S., CUNNINGHAM B.C.;
"Solution conformation of an atrial natriuretic peptide variant selective for the type A receptor.";
BIOCHEMISTRY 33:8897-8904(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            MISSING (IN ONE OF THE TWO GENES)
C24A68AF CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ö
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PERISSODACTYLA; EQUIDAE; EQUUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 153;
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Pred. No. 1.76e+01;
0; Mismatches 0;
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PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PFAM; PFUUZIZ; ANF; I.
VASOACTIVE; SIGNAL; 3D-STRUCTURE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-AUG-1992 (REL. 23, CREATED)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16708 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; X01470; G825625; -. EMBL; X02558; G825625; JOINED. EMBL; K02043; G178630; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             X01471; E27452; ALT_SEQ.
K02044; G178632; -- AL021155; E1294859; --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ANP) (PREPRONATRIODILATIN).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   M30262; G180182; -. K02399; G178634; -.
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146.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 07-APR-95
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152
153 AA;
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Length 740;

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Query Match
Best Local Similarity 100.0%;
Matches 5; Conservative
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                                                                                                            340 NSFRY 344
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                                                                                                                                                                                                                                                  LT 14
TDCE_ECOLI
P42632;
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PO8771;
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                                                                                                                                                            This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its mose by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/
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SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          POTENTIAL.
ATRIAL NATIURETIC PEPTIDE, ALPHA (ANP).
BY SINILARITY.
FESDSF4A CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                  A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PFNA: PFO1228: 0.---
TRANSFERASE; ACYLTRANSFERASE; GLUCOSE METABOLISM; ORGANIC RADICAL.
TRANSFERASE; ACYLTRANSFERASE; GLUCOSE METABOLISM; ORGANIC RADICAL.
MOD_RES 715 715 FREE RADICAL (BY SIMILARITY).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       01-NOV-1997 (REL. 35, CREATED)
01-NOV-1997 (REL. 35, LAST SEQUENCE UPDATE)
01-NOV-1997 (REL. 35, LAST ANNOTATION UPDATE)
FORMATE ACETYLTRANSFERASE (EC 2.3.1.54) (PYRUVATE FORMATE-LYASE).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CLOSTRIDIUM PASTEURIANUM.
BACTERIA; FIRMICUTES; BACILLUS/CLOSTRIDIUM GROUP; CLOSTRIDIACEAE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -!- SUBCELLULAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
-!- SIMILARITY: STRONG, TO OTHER PYRUVATE FORMATE-LYASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             + PYRUVATE
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  WEIDNER G., SAWERS G.; "Molecular characterization of the genes encoding pyruvate formate-lyase and its activating enzyme of Clostridium
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -!- PATHWAY: GLUCOSE METABOLISM (NONOXIDATIVE CONVERSION).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 41; DB 1; Length 153;
Pred. No. 1.76e+01;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BACTERIOL. 178:2440-2444(1996).
CATALYTIC ACTIVITY: ACETYL-COA + FORMATE - COA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         740 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                 PIR; S14873; S14873.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
                                                                                                                                                                                                                                                                                                                                 or send an email to license@isb-sib.ch).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
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PROSITE: PS00850; GLY_RADICAL; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                16825 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
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130 146
153 AA; 168
                                                                                                                                                                                                                                                                                                                                                                                       EMBL; X58563; G1009; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PFAM; PF00212; ANP; 1. VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
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NSFRY 5
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PFL_CLOPA
Q46266;
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DISULFID
SEQUENCE
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                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                          01-NOV-1995 (REL. 32, CREATED)
01-NOV-1995 (REL. 32, LAST SEQUENCE UPDATE)
15-JUL-1998 (REL. 36, LAST ANNOTATION UPDATE)
KETO-ACID FORMATE ACETYLTRANSFERASE (EC 2.3.1.-) (KETO-ACID FORMATE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
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STRIN-K12 / MO1655;
MEDLINE; 97426617.
BLATTNER F.E., PLUNKETT G. III, BLOCH C.A., PERNA N.T., BURLAND V.,
RILEY M., COLLADO, IDES J., GLASNER F.D., RODE C.K., MAYHEW G.F.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    01-NOV-1988 (REL. 09, CREATED)
01-NOV-1988 (REL. 09, LAST SEQUENCE UPDATE)
15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
TRANSPOSABLE ELEMENT ACTIVATOR HYPOTHETICAL 12 KD PROTEIN (AC 12 KD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; ENTEROBACTERIACEAE;
ESCHERICHIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DAVIS N.W., KIRKPATRICK H.A., GOEDEN M.A., ROSE D.J.,
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UNPUBLISHED OBSERVATIONS (XXX-1997).
-!- PATHWAY: ANAEROBIC PATHWAY THAT DEGRADES L-THREONINE TO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EMBL; ALVOLOSS, TOCE.
ENGGENE; EG12758; TDCE.
ENGGENE; EG12758; GLY_RADICAL; 1.
PRAN; PF01228; GLY_RADICAL; 1.
PRAN; PF01228; ACYLTRANSFERASE; ORGANIC RADICAL.
MOD_RES.
SEQUENCE 746 AA; 83731 MW; DA3FA991 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GREGOR J., DAVIS N.W., KIRKPATRICK H.A., GOEDEN M.A., ROSMAD B., SHAO Y.;
"The complete genome sequence of Escherichia coli K-12.";
SCIENCE 277:1453-1474(1997).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -!- SUBCELLUTAR LOCATION: CYTOPLASMIC (BY SIMILARITY).
-!- SIMILARITY: STRONG, TO PYRUVATE FORMATE-LYASES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 746;
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Pred. No. 1.76e+01;
0; Mismatches 0; Indels
                                                              0; Indels
Score 41; DB 1; LA Pred. No. 1.76e+01;
                                                              0; Mismatches
                                                                                                                                                                                                                                                                                                                  746 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AE000393; G1789502; -.
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Best Local Similarity 100.0%;
Matches 5; Conservative
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                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ESCHERICHIA COLI
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SEQUENCE FROM N.A.

KUNZE R., STOCHAJ U., LAUFS J., STARLINGER P.;

KUNZE R., STOCHAJ U., LAUFS J., STARLINGER P.;

KTANSCRIPTION OF TRANSPOSABLE GENERAL ACTIVATOR L.";

EMBO J. 6:1555-1563(1987).

-!- THIS PROTEIN IS CODED BY THE TRANSPOSABLE MAIZE CONTROLLING

ELEMBAT "ACTIVATOR" (AC), WHICH IS ABLE TO ACTIVATE CHROMOSOME

BREAKAGE AT A SPECIFIC LOCATION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss institute of Bioinformatics and the EMBL outstation the European Bioinformatics institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
PROTEIN).
2EA MAYS (MAIZE).
EURRAYOTA: VIRIDIPLANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
EUPHYLLOPHYTES; SPERWATOPHYTA; MAGNOLIOPHYTA; LILIOPSIDA; POALES;
POACEAE; ZEA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 39; DB 1; Length 102;
Pred. No. 5.00e+01;
1; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; XOS424; G22114; --
PIR; A27863; A27863.
MAIZEDB; 69192; --
TANGSOSABLE ELEMENT; HYPOTHETICAL PROTEIN.
SEQUENCE 102 AA; 12406 MW; 1AE0E76C CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Similarity 80.0%;
Matches 4; Conservative
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0; Gaps

Search completed: Wed Jun 16 13:23:53 1999 Job time: 7 secs.

71 NTFRY 75

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protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed Jun 16 13:24:09 1999; MasPar time 4.08 Seconds 66.914 Million cell updates/sec Tabular output not generated. Run on:

>US-09-027-777B-3 (1-5) from US09027777B.pep 41 1 NSFRY 5 Title: Description: Perfect Score: Sequence:

PAM 150 Gap 15

Scoring table:

179066 segs, 54579741 residues Searched:

Minimum Match 0% Listing first 45 summaries Post-processing:

sptremb19 Database:

1:sp_archea 2:sp_bacteria 3:sp_fungi 4:sp_human 5:sp_invertebrate 6:sp_mammal 7:sp_mhc 8:sp_organelle 9:sp_phage 10:sp_plant 11:sp_rodent 12:sp_unclassified 13:sp_vertebrate 14:sp_virus

scale 0.873 Variance 23.245; Mean 20.285; Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		æ					
Result No.	Score	Query Match	Query Match Length DB	DB	ID	Description	Pred. No.
	41	100.0	110	: :	058195	110AA LONG HYPOTHETICA	5.47e+01
7	4.1	100.0	151	4	013766	ATRIAL NATRIURETIC FAC	5.47e+01
m	41	100.0	152	ø	046540	ATRIAL NATRIURETIC PEP	5.47e+01
4	41	100.0	155	φ	029130	CARDIODILATIN, ATRIAL	5.47e+01
'n	41	100.0	164	ω	P92530	ORF164.	5.47e+01
9	41	100.0	195	S	044830	F54D12.6 PROTEIN.	5.47e+01
7	41	100.0	513	~	032561	KETO ACID FORMATE-LYAS	5.47e+01
80	41	100.0	635	10	064715	T8K22.8 PROTEIN.	5.47e+01
0	41	100.0		S	P91157	COSMID C44C3.	5.47e+01
10	39	95.1		~	056386	HYPOTHETICAL 9.2 KD PR	1.41e+02
11	39	95.1	107	-	058090	107AA LONG HYPOTHETICA	1.41e+02
12	6ë	95.1	141	10	P93305	ORF141.	1.41e+02
13	39	95.1	190	'n	077421	FEMALE-SPECIFIC HISTAM	1.41e+02
14	60	95.1	209	14	012300	REPLICASE.	1.41e+02
15	60	95.1	240	~	031875	YOSN PROTEIN.	1.41e+02
16	60	95.1	254	13	091307	MYOSIN VI (FRAGMENT).	1.41e+02
17	60	95.1	256	Ŋ	061766	C35E7.8 PROTEIN.	1.41e+02
18	66	95.1	293	14	096615	BV1 AND BC1 GENES, COM	1.41e + 02
19	39	95.1	297	13	091296	MYOSIN VI (FRAGMENT).	1.41e+02
20	39	95.1	310	7	066675	ADP-L-GLYCERO-D-MANNO-	1.41e+02

1.41e+02	1.41e+U2	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02	1.41e+02
Q.		CYSTEINE PROTEINASE.	CYSTEINE PROTEINASE.	CYSTEINE PROTEINASE 1	F36H12.2 PROTEIN.	GTP-BINDING PROTEIN.	M.BSSHII METHYLASE.	HYPOTHETICAL 48.7 KD P	NOSD PROTEIN.	HNF-3/FORK-HEAD TRANSC	F58G1.7 PROTEIN.	589AA LONG HYPOTHETICA	WEE1-LIKE KINASE.	F59F5.3 PROTEIN.	UNIDENTIFIED FERRIC SI	REPLICASE.	PUTATIVE DIPEPTIDYL AM	DELTA-ENDOTOXIN.	FERRICHROME-IRON RECEP	CARBOMYLPHOSPHATE SYNT	HYPOTHETICAL 120.7 KD	INDUCIBLE NITRIC OXIDE	PUTATIVE MINOR TAIL PR	ORF40.
061946	046031	046032	046030	095029	076720	P96085	030877	005912	031383	013606	062270	058168	046149	021046	P94274	012301	014073	045755	P72599	050302	013807	054705	080179	034071
ស	n	S	S	S	S	-	7	~	7	m	Ŋ	-	ស	S	~	14	m	7	7	7	٣	11	σ	7
315	331	331	338	341	350	360	375	439	453	517	569	589	614	671	724	729	793	803	863	1064	1072	1149	1510	1517
95.1	95. I	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	35.1	35.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1	95.1
39	7	33	39	39	39	39	39	39	39	39	39	39	39	33	39	39	39	39	36	39	39	39	39	39
21	7.7	23	24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45

ALIGNMENTS

Gaps

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SETT THE SET OF SET OF

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EUKARYOTA; VIRIDIPLANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
EUPHYLLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
CAPPARALES; BRASSICACEAE; ARABIDOPSIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WILSON R., AINSCOUGH R., ANDERSON K., BAYNES C., BERKS M., WILLSON R., AINSCOUGH R., ANDERSON K., EDVELLO J., BUSTON J., CONNELL M., COPSET T., COOPER J., COULSON A CRAXTON M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L., GARDNER A., OFREN P., HAWKINS T., HILLIER L., JIER M., JOHNSTON L., LIGHTNING J., LLOYD C., MCMURRAY A., MORTIMORE B., O'CALLAGHAN M., PARSONS J., PERCY C., RIFKER L., STADEN B., SAUNDERS D., SHOWNKEEN F., STALDON N., SMITH A., SOUNHAAMER E., STADEN R., SULSTON J., WATSON A., WEINSTOCK L., WILKINSON-SPROAT J., WOHLDMAN P., CHEBRY-MIEG J., THOMAS K., VAUGHAN Y., WOHLDMAN P., CHEBRY-MIEG J., WILKINSON-SPROAT J., WOHLDMAN P., CHEBRY-MIEG J., CHEBRY-MIEG CHEBRY-M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CAENORHABDITIS ELEGANS.
EUKARYOTA; METAZOA; NEMATODA; SECERNENTEA; RHABDITIA; RHABDITIDA;
RHABDITINA; RHABDITOIDEA; RHABDITIDAE; PELODERINAE; CAENORHABDITIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score 41; DB 8; Length 164;
Pred. No. 5.47e+01;
                                                                                                                                                                                            Score 41; DB 6; Length 155; Pred. No. 5.47e+01; 0; Mismatches 0; Indels
                  PARDIGOL A.;
SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL.; 270294; E233859; -.
PROSITE: PE00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
SEQUENCE 155 AA: 16860 MW; 77E8CA8B CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
UNSELD M., MARIENFELD J.R., BRANDT P., BRENNICKE A.;
NAT. GENET. 0:0-0(0).
EMBL, Y08502; E283579; -.
MITOCHONDRION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        06, CREATED)
06, LAST SEQUENCE UPDATE)
08, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-MAY-1997 (TREMBLREL. 03, CREATED)
01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
01-MAY-1997 (TREMBLREL. 03, LAST ANNOTATION UPDATE)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       195 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                  164 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ARABIDOPSIS THALIANA (MOUSE-EAR CRESS) MITOCHONDRION.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                         Query Match
Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-JUN-1998 (TREMBLREL.
01-JUN-1998 (TREMBLREL.
01-NOV-1998 (TREMBLREL.
F54D12.6 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRAIN-BRISTOL N2;
MEDLINE; 94150718.
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                                                                                                                                                                                                                                                                                               149 NSFRY 153
  TISSUE-HEART;
                                                                                                                                                                                                                                                                                                                                       1 NSFRY 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 NSFRY 5
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                                                                                                                                                                                                                                                                                                                                                                                                                        LT 5
P92530
P92530;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               T 6
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                                                                                                                                                                                                                                                                                                                                              CARDIODILATIN-RELATED PEPTIDE (CDP).
ATRIAL NATRIURFIIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
E8827DA3 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OVIS ARIES (SHEEP).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA:
ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALTKEN G.D., RAIZIS A.M., GEORGE P.M., ESPINER E.A., CAMERON V.A.;
AITKEN G.D., RAIZIS A.M., GEORGE P.M., ESPINER E.A., CAMERON V.A.;
SUBMITTED (DEC-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
BRBL; AF037465; G2708650; -.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
SEQUENCE 152 AA; 16368 MW; D5360BCC CRC32;
                                       SEQUENCE FROM N.A.

MEDLINE; 85206210.

SEIDMAN C.E., BLOCH K.D., ZISFEIN J., SMIT J., HABER E., HOMCY C.,

SEIDMAN C.E., GALAAM R.M., SEIDMAN J.G.;

"MOLECULAR STUDIES OF THE ALTIAL NATIUNETIC factor gene.";

"MYPERTERISION 7:31-34(1985).

EMBL; M54947, G178638.

EMBL; M54941; G178638.

EMBL; M54941; G178638.

PROSITE; PS002023, NATRIURETIC_PEPTIDE: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
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SCANDENTIA; TUPAIIDAE; TUPAIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 41; DB 6; Length 152; Pred. No. 5.47e+01; 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 41; DB 4; Length 151;
Pred. No. 5.47e+01;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TISSUE-HEART;
SCHNEIDEMANN S., MAEGERT H.J., FORSSMANN W.G.;
SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-NOV-1996 (TREMBLREL. 01, CREATED)
01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
CARDICOLLATIN, ATRIAL NATRIUNETIC PEPTIDE.
TUPAIA BELANGERI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CREATED)
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                                                                                                                                                                                                                                                                                                                                                                                                                          16381 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JUN-1998 (TREMBLREL. 06, 01-JUN-1998 (TREMBLREL. 06, 01-AUG-1998 (TREMBLREL. 07, ATRIAL NATRIURETIC PEPTIDE.
CATARRHINI; HOMINIDAE; HOMO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                              26
124
130
151 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          146 NSFRY 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             147 NSFRY 151
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1 NSFRY 5
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PEPTIDE
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029130
029130;
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046540
046540;
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Gaps

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Indels

Gaps

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Length 635;

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WILSON R., AINSCOUGH R., ANDERSON K., BAYNES C., BERKS M.,
BONFIELD J. BURTON J., CONNELL M., COPSEY T., COOPER J., COULSON A.,
CRAXTON M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L.,
GARDNER A., GREEN P., HAMKINS T., HILLIER L., JIER M., JOHNSTON L.,
JONES M., KERSHAW J., KIRSTEN J., LAISTER N., LATREILLE P.,
LIGHTWING J., LLOYD C., MCMURRAY A., MORTIMORE B., O'CALLAGHAN M.,
SMALDON N., SMITH A., SONNHAMMER E., STADEN R., SULSTON J.,
THIERRY-MIEG J., THOMAS K., VAUDIN M., VAUGHAN K., WATERSTON R.,
WATSON A., WEINSTOCK L., WILKINSON-SPROAT J., WOHLDMAN P.;
2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
elegans.";
                                                                                                                                                                                                                                                                                                                                                                              EUKARYOTA; METAZOA; NEMATODA; SECERNENTEA; RHABDITIA; RHABDITIDA;
RHABDITINA; RHABDITOIDEA; RHABDITIDAE; PELODERINAE; CAENORHABDITIS.
ROUNSLEY S.D., LIN X., KETCHUM K.A., CROSBY M.L., BRANDON R.C
SYKES S.M., KAUL S., MASON T.M., KERLAVAGE A.R., ADAMS M.D.,
SOMERVILLE C.R., VENTER J.C.;
SOMENTITED (JUN-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL, ACO04136; 63184278; -.
SEQUENCE 635 AA; 72049 MW; 07FC643C CRC32;
                                                                                                        Score 41; DB 10; Length 635 Pred. No. 5.47e+01; 0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 41; DB 5; Length 993;
Pred. No. 5.47e+01;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SUBMITTED (NOV-1996) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; U80028; G1699137; -.
SEQUENCE 993 AA; 115001 MW; A6FCFASE CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SUBMITTED (JAN-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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                                                                                                                                                                                                                                                            993 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Q56386;
01-NOV-1996 (TREMBLREL. 01,
01-NOV-1996 (TREMBLREL. 01,
01-NOV-1998 (TREMBLREL. 08,
HYPOTHETICAL 9.2 AD PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                        03,
03,
                                                                                                        Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRELIMINARY;
                                                                                                                                                                                                                                                            PRELIMINARY;
                                                                                                                                                                                                                                                                                     01-MAY-1997 (TREMBLREL.
01-MAY-1997 (TREMBLREL.
01-NOV-1998 (TREMBLREL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NATURE 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                 CAENORHABDITIS ELEGANS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE FROM N.A. STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A. STRAIN-BRISTOL N2;
                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-BRISTOL N2;
MEDLINE; 94150718.
                                                                                                                                                                                                                                                                                                                                                                                                                           SEQUENCE FROM N.A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            592 NSFRY 596
                                                                                                                                                                   439 NSFRY 443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           WATERSTON R.;
                                                                                                                                                                                   1 11111
1 NSFRY 5
                                                                                                                                                                                                                                                                                                                                    COSMID C44C3.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1 | | | | |
                                                                                                                                                                                                                                         LT 9
P91157
P91157;
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Q56386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TIN A.;
                                                                                                                                                                                                                                                                                                                                                     C44C3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESULT OS AC Q5 DT 01 DT 01 DT DT DT DT DT DT DT DT DT DE HX
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EUKARYOTA; VIRIDILANANE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
EUPHYLLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
CAPPARALES; BRASSICACEAE; ARABIDOPSIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BACTERIA; PROTEOBACTERIA; GAMMA SUBDIVISION; ENTEROBACTERIACEAE;
ESCHERICHIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ö
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                                                                                                                                                                                                        Score 41; DB 5; Length 195;
Pred. No. 5.47e+01;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score 41; DB 2; Length 513;
Pred. No. 5.47e+01;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HESELINGER C., FAIRHURST S.A., SAWERS G.;
SUBMITTED (SEP-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; AJ001620; E1169787; -
                                                                                                                                       WATERSTON R.;
SUBMITTED (DEC-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; AF040647; G2746630; -
SEQUENCE 195 AA; 22009 MW; 8C0B0769 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN*W3110;
HESSLINGER C., SAWERS G.;
SUBMITTED (SEP-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                               MAGGI L., GOELA D.;
SUBMITTED (JAN-1998) TO EMBL/GENBANK/DDBJ DATA BANKS
                                                                                                                                                                                                                                                                                                                                                                                            05, CREATED)
05, LAST SEQUENCE UPDATE)
07, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         01-AUG-1998 (TREMBLREL. 07, CREATED)
01-AUG-1998 (TREMBLREL. 07, LAST SEQUENCE UPDATE)
01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  513 513 513
513 AA; 58248 MW; A8023A3E CRC32;
                                                                                                                                                                                                                                                                                                                                                                 513 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Mismatches
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                                                                                                                                                                                                                                                                                                                                                                 PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                         KETO ACID FORMATE-LYASE (FRAGMENT).
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Best Local Similarity 100.0%;
Matches 5; Conservative
                                                                                                                                                                                                               Local Similarity 100.0%;
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032561 032561
01-JAN-1998 (TREMBLREL. 0
01-JAN-1998 (TREMBLREL. 0
01-AUG-1998 (TREMBLREL. 0
                                                                                                                                                                                                                                              5; Conservative
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    NATURE 368:32-38(1994).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM N.A.
STRAIN=CV. COLUMBIA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE FROM N.A.
                                SEQUENCE FROM N.A. STRAIN-BRISTOL N2;
                                                                                                                           STRAIN-BRISTOL N2;
                                                                                                           SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ESCHERICHIA COLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         T8K22.8 PROTEIN.
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                                                                                                                                                                                                                                                                           .138 NSFRY 142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STRAIN-W3110;
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1 NSFRY 5
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SEQUENCE
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064715;
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      SORESCENE
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Gaps

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PRELIMINARY;
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01-JUL-1997 (TREMBLREL.
01-NOV-1998 (TREMBLREL.
                                                                                                                                                                                                                                                                                                                                                                                                                                190 AA;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE FROM N.A.
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                                                                                                                                               84 DSFRY 88
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NSFRY 5
                                                                                                                                                            : | | | |
1 NSFRY 5
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012300
012300;
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077421
077421;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KAWARABAYSI Y., SAWADA M., HORIKAWA H., HAIKAWA Y., HINO Y., YAMAMOTO S., SEKINE M., BABA S., KOSUGI H., HOSOYAMA A., NAGAI Y., SAKAI M., OGURA K., OTUKA R., NAKAZAWA H., TAKAMIYA M., OHFUKU Y., FUNAHASHI T., TANAKA T., KUDOH Y., YAMAZAKI J., KUSHIDA N., OGUCHI A., AOKI K., NAKAMUKA Y., ROBB T.F., HORIKOSHI K., MASUCHI Y., SHIZUYA H., KIKUCHI H.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ARABIDOPSIS THALIANA (MOUSE-EAR CRESS).
EUKARYCVA; VIRIDIPLANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
EUPHYLLOPHYTES; SPERMATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
CAPPARALES; BRASSICACEAE; ARABIDOPSIS.
                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                          PYROCOCCUS HORIKOSHII.
ARCHAEA; EURYARCHAEOTA; THERMOCOCCALES; THERMOCOCCACEAE; PYROCOCCUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      "Complete Sequence and Gene Organization of the Genome of a Hyper-thermophilic Archaebacterium, Pyrococcus horikoshii OT3."; DNA RES. 5:55-76(1998). EMBL: AP0000012; D1030369; -. SEQUENCE 107 AA; 11348 MW; D4781A0C CRC32;
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                                                                                                                              RASMUSSEN J.L., ODELSON D.A., MACRINA F.L.;
"Complete nuclectide sequence of insertion element IS4351
BACTERIOL. 169:3573-3580(1987).
EMBL: M17124; G1197008; ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0; Indels
                                                                                                                                                                                                                                 Length 79;
                                 SEQUENCE FROM N.A.
TRANSPOSON-TRANSPOSON TN4351;
RASMUSSEN J.L.;
SUBMITTED (JUL-1988) TO EMBL/GENBANK/DDBJ DATA BANKS.
BACTEROIDES FRAGILIS.
BACTERIA; CYTOPHAGALES; BACTEROIDACEAE; BACTEROIDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  P93305

P93305;

01-MAY-1997 (TREMBLREL. 03, CREATED)

01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)

01-JAN-1999 (TREMBLREL. 09, LAST SEQUENCE UPDATE)

ORFI41.
                                                                                                                                                                                                                                                                                                                                                                                           07, LAST SEQUENCE UPDATE)
09, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                Score 39; DB 2; L
Pred. No. 1.41e+02;
                                                                                                                                                                                                        79 AA; 9166 MW; 9E31B22F CRC32;
                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                         107 AA
                                                                                                                                                                                                                                                                                                                                                                                 CREATED)
                                                                                                                                                                                                                                                                                                                                                         PRT;
                                                                                                                                                                                                                                                                                                                                                                                                      11-JAN-1999 (TREMBLREL. 09, LAST
107AA LONG HYPOTHETICAL PROTEIN
                                                                                             SEQUENCE FROM N.A.
TRANSPOSON-TRANSPOSON TN4351;
MEDLINE; 87279905.
                                                                                                                                                                                                                                                                                                                                                                                 07,
                                                                                                                                                                                                                                95.1%;
larity 80.0%;
Conservative
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Similarity 80.0%;
4; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                01-AUG-1998 (TREMBLREL.
                                                                                                                                                                                                                                                                                                                                                                                           01-AUG-1998 (TREMBLREL. 01-JAN-1999 (TREMBLREL.
                                                                                                                                                                                             HYPOTHETICAL PROTEIN
                                                                                                                                                                                                                               Query Match
Best Local Similarity
Matches 4; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-OT3;
MEDLINE; 98344137.
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                                                                                                                                                                                                                                                                                40 DSFRY 44
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1 NSFRY 5
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1 NSFRY 5
                                                                                                                                                                                                         SEQUENCE
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058090
058090;
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VIRUSES: SSRNA POSITIVE-STRAND VIRUSES, NO DNA STAGE; TOMBUSVIRIDAE;
CARMOVIRUS.
                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
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"Molecular cloning and complete nucleotide sequence of galinsoga
mosaic virus genomic RNA.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EUKARYOTA, METAZOA: ARTHROPODA, CHELICERATA; ARACHNIDA; ACARI;
PARASITIFORMES; IXODIDA; IXODIDAE; RHIPICEPHALUS.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
TISSUE-SALIVARY GLAND;
PAESEN G.C., NUTTALL P.A.;
"A family of histamine-binding salivary proteins from the tick, Rhipicephalus appendiculatus.";
SUBMITTED (APR-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL; U96081; G3452089;
                                                                                                                                                                                          Length 141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 209,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 39; DB 5; Length 190; Pred. No. 1.41e+02; 1; Mismatches 0; Indels
                                                                                                                                                                                                                                         Indels
[1]
SEQUENCE FROM N.A.
UNSELD M., MARIENFELD J.R., BRANDT P., BRENNICKE A.;
UNSELD M., MARIENFELD J.R., BRANDT P., BRENNICKE A.;
EMBL: Y08501; E283595; -.
MENDEL: 13049; ARAth;2249;1.
SEQUENCE 141 AA; 16689 MW; 956EBE94 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RUSSO M.;
SUBMITTED (MAY-1997) TO EMBL/GENBANK/DDBJ DATA BANKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1998 (TREMBLREL. 08, CREATED)
01-NOV-1998 (TREMBLREL. 08, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
FEMALE-SPECIFIC HISTANINE BINDING PROTEIN 2.
                                                                                                                                                                                     Score 39; DB 10; Ler
Pred. No. 1.41e+02;
1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 95.1%; Score 39; DB 14; Les
Best Local Similarity 80.0%; Pred. No. 1.41e+02;
Matches 4; Conservative 1; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EMBL; Y13463; E321113; -.
SEQUENCE 209 AA; 22949 WW; 4D31DD75 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           21464 MW; 08166E2F CRC32
                                                                                                                                                                                                                                                                                                                                                                                                                                   190 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT;
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                                                                                                                                                                                     Query Match
Best Local Similarity 80.0%;
Matches 4; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ouery Match 95.1%;
Best Local Similarity 80.0%;
Matches 4; Conservative
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Gaps

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Indels

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A KUNSTER, OGASAMARA N., MOSZER I., ALBERTINI A.M., ALLONI G.,
A AZEYEDO V., BERTERO M.G., BESSIERES P., BOLCTIN A., BORCHERT S.
A BORRISS R., BOURSIER L., BRANS A., BRAUN M., BRIGNELL S.C., BRON S.,
BORKISS R., BOURSIER L., BRANS A., BRAUN M., BRIGNELL S.C., ERON S.,
BORNILGET S., BRUSCHI C., BRANS A., BRAUN W., BRIGNEL S.C., ERON S.,
A CHOI S.K., CODANI J.J., CONNERTON I.F., CUMMINGS N.J., DANIEL R.A.,
DENIZOT F., DEVIRE K.M., DUSTERHOFT A., ERRILCHS S.D., EMMERSON P.T.,
ENTIZ C., FUJITA M., FUJITA Y., FUMA S., GALIZZI A., GALLERON N.,
GHIM S.Y., GLASER P., GOFFEMU A., GOLIGHTLY E.J., GRANDI G.,
A HILBERT H., HOLSAPPEL S., HOSONO S., HOLLO M.F., ITAYA M., JONES L.,
JURIS B., KARAMATA D., KASHARA Y., KADERR BLANCHARD M., KLEIN C.,
A JONES B., KARAMATA D., KASHARA Y., KADERR BLANCHARD M., KLEIN C.,
A LEY S.M., LEVINE A., LIU H., MASUDA S., MAUEL C., MEDIGUE C.,
A HEDINA N., MELLADO R.P., MIZUNO M., MOESTL D., NAKAI S., NOBACK M.,
A RESECAN E., POLL T.M., PORTETELLE D., PORMOLLIK S., PRESCOTT A.M.,
A PRESCAN E., PUNINELE B., ROCHE B., PRAK S.H.,
A RIEGER M., RIVOLTA C., ROCHA E., ROCHE B., ROSE M., SADAIE Y.,
A SCHOKIN A., TARANOSHI A., TRARAHSHI H., TAREMARU K.,
A TARKUCHI M., TAMAKOSHI A., TRARAHSHI H., TAKHASHI H., TAKHASHI H.,
A TAKEUCHI M., TAMAKOSHI A., TARAHSHI H., TAKHASHI H., TAKHASHI H.,
A TOSHIDA K., WEDLER E., WEDLER H., WEDLER R., WEDLER R.,
A VORHIDA K., WEDLER E., WEDLER H., WENTERRER T.,
A VORHIDA K., WORTHRA A., VAMAMOTO H., YAMANE K., YASHONO K., YATA K.,
A VORHIDA K., WORTHRA A., VAMAMOTO H., YAMANE H.,
A VOSHIDA K., WORTHRA A., VAMAMOTO H., YAMANE H.,
A VOSHIDA K., WORTHRA A., VAMAMOTO H., YAMANE H.,
A WINTERS P., WIPPAT A., YAMAMOTO H., YAMANE H.,
A WORTHRA P., WIPPAT A., YAMAMOTO H., YAMANE F., WELTER FIRM H., TAKATI H.,
A TAKEUTH R., TAKATI H., WEDLER E., WELTER PROFILLY B., TOCHA B., TAKATI H.,
A WINTERS P., WIPPAT A., YAMAMOTO H., YAMANE F., WELTER PROFILLY B., TOCHA B., TAKATI H.,
A TOCHA PAR A., WIPPAT A., YAMANE PAR A., WIPPAT A., WIPPAT A., WANE FRIENDE C.,
A VORTER B., WIPPAT A., YA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 BACILLUS SUBTILIS.
BACTERIA; FIRMICUTES; BACILLUS/CLOSTRIDIUM GROUP; BACILLACEAE;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouery Match 95.1%; Score 39; DB 2; Length 240; Best Local Similarity 80.0%; Pred. No. 1.41e+02; Matches 4; Conservative 1; Mismatches 0; Indels
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SUBMITTED (NOV-1997) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL. 299114; E1185478; .
SEPRM: PF00317; IIDonucleo_red; 1.
SEQUENCE 240 Aa; 27966 FW; 16160EDD CRC32;
                                                                                                                                                                                                                                                                                                                                                       01-JAN-1998 (TREMBLREL. 05, CREATED)
01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
YOSN PROTEIN.
                                                                                                                                                                                                                                                                           240 AA
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                                                                                                                                                                                                                                                                           PRELIMINARY;
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MEDLINE; 98044033
29 NAFRY 33
                                                    |:|||
| NSFRY 5
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031875;
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Search completed: Wed Jun 16 13:24:43 1999 Job time: 34 secs.

231 NAFRY 235

8 6 6 30e 19 95e 18 95

Sequence of peptide(s Sequence of atrial na Sequence of polypepti Sequence of pro-atria Sequence of pro-atria Ggamma-rat atrial nat Rat pre-pro-NVP.

Sequence of pro-atria Ggamma-rat atrial nat Beta-gal leader and p Atrial natriuretic fa Beta-gal leader and p Atrial natriuretic fa Blologically active s Chelated atrial natri Sequence of new biolo Atrial natriuretic pe Urodilatin, a blologi Fusion protein compri Fusion protein compri Sequence of atrial natrial sequence of atrial natrial sequence of peptide h Sequence of atrial natriuretic fa Sequence of atrial na Sequ

P51102 P51107 P51107 P51107 P51238 P502128 P50325 P501242 P50123 P501328 P603328 P603328 P60332 P51103 P51103 P61765 P61765 P61765 P61765 P61765 P61765 P61765

3 25 25 25 25

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(ME)	Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd	MPsrch_pp protein - protein database search, using Smith-Waterman algorithm	Run on: Wed Jun 16 12:47:54 1999; MasPar time 4.58 Seconds 171.977 Million cell updates/sec Tabular output not generated.	Title: >VANDER-027-213.PEP Description: (1-37) from vander027777.pep Perfect Score: 279 Sequence: 1 LRALLTAPRSLRRSSFRGRMDRIGAQSGLGGNSFRY 37	Scoring table: PAM 150 Gap 11	Searched: 170751 segs, 21266608 residues	Post-processing: Minimum Match 0% Listing first 45 summaries	Database: a-geneseq35 1:part1 2:part2 3:part3 4:part4 5:part5 6:part6 7:part7 8:part8 9:part8 10:part10 11:part11 12:part12 13:part13 14:part19 15:part15 16:part8 17:part17 18:part13 24:part19 20:part20 21:part21 22:part22 23:part23 24:part29 35:part25 26:part26 27:part27 28:part28 29:part29 30:part30 31:part31 32:part31 33:part33 34:part34 35:part35 36:part36 37:part37 38:part38

ALIGNMENTS	RESULT 1 ID P50493 standard; protein; 88 AA. AC P50493; DT 18-MAR-1992 (first entry).		PT secretion Scalar 22; Page 16; 35pp; German. CT This variant of the peptide described in P50491 has a mol.wt. CC This variant of the peptide described in P50491 has a mol.wt. CC of 13,000 and an isoelectric point of 6-6.5. This peptide CC of 13,000 and an isoelectric point of 6-6.5. This peptide CC partial bromeyan separation between the Met groups and CC partial bromeyan separation between the Met groups and CC vasomuscles. It also affects sweat secretion and can be used for CC the diagnosis and therapy of hypertension. It can also be used for CC the treatment of post-operative cardiovascular disorders, skin CC diseases, etc. The hormone may be prepared from a heart atrium CC extract. See also P50491-2. Scquence 88 AA;	Query Match 100.0%; Score 279; DB 3; Length 88; Best Local Similarity 100.0%; Pred. No. 2.60e-21; Additional states of states
	4 7 7 1			

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RESULT 2 ID W34533 standard; Protein; 126 AA.

2. 60e-21 3. 60e

Cardiodilatine peptid
Human atrial natriure
Sequence of pro-atria
Sequence of pro-atria
Sequence of pre-atrial na
Human pre-proANVP #2.
Sequence of pre-human
Human pre-proANVP #1.
Sequence of pre-human
Human pre-proANVP #1.
Sequence of pre-pro-a

P50493 W34533 P501240 P501240 P50135 R36935 R36933 P50050 P50050 P50050 P51239 P51239 P51239 P51239 P51239

1000.0 10

279 279 279 279 279 279 279 267 267 267 267 267 267 267

Pred. No.

Description

DB ID

Length

Score

2

% Query Match 1

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed and is derived by analysis of the total score distribution.

SUMMARIES

Mean 24.237; Variance 85.878; scale 0.282

Statistics:

Gaps

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Vesely

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The precursor of human gamma-ANP and its 26Asn-151Tyr fragmentare claimed (P50036, P50037), as are the DNA SQS encoding them (N50020, N50055). The 26Asn-151Tyr fragment has a direttic action so is useful as a hypotensive/antihypertensive agent. The usual dose is 0.
        The inventors claim a polypeptide comprising atrial natriuretic/vasodilator polypeptide (ANVP), pro-ANVP or pre-pro-ANVP, or their fragments. The encocing DNA sequence is also claimed. The claimed polypeptides are natriuretics, diuretics, vasodilators and modulators of the renin-angiotensin-aldosterone system. Dose is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Monoclonal antibodies recognising gamma-atrial natriuretic used for diagnosis of diseases eg kidney and heart disease. Used for diagnosis of fiseases eg kidney and heart disease. Bisclosure, Fig.1; 10pp; English. Gamma-hANP of Which the N-terminal 25 AAs are recognisy monoclonal antibodies of the invention
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            03-SEP-1991 (first entry)
Sequence of human gamma-atrium natriuretic polypeptide (ANP).
Natriuretic; diuretc; hypotensive; antihypertensive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               N-PSDB; N50055.
New DNA sequences from human atrium cordis - coding for new
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 126;
                                                                                                                                                                                                                                                                                                                                                  Length 126,
                                                                                                                                                                                                                                                                                                                                             Score 279; DB 4; Length 126
Pred. No. 2.60e-21;
0; Mismatches 0; Indels
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Gamma atrial natriuretic polypeptide; ANP; natriuretic;
hypertension; cirrhosis; nephrosis; heart disease.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08-JUN-1984; 116605.
08-JUN-1984; JP-116605.
08-JUN-1984; JP-116605.
(SUNR ) SUNTORY LTD.
Matsuc H, Kangawa K, Hayashi Y, Oikawa S, Oshima '
Tanaka S, Nakaaato H, Tawaragi Y;
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Pred. No. 2.60e-21;
0; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      10-JAN-1988.
30-JUN-1989; 306669.
04-JUL-1988; JP-166641.
(SHIO) Shlonogi Seiyaku Kabushiki.
Imura H, Nakao K;
WPI; 90-009970/02.
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R00582 standard; protein; 126 AA.
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Best Local Similarity 100.0%;
Matches 37; Conservative
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Best Local Similarity 100.0%;
Matches 37; Conservative
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                                                                                                                                                                                                        0.01-100 ug/kg.
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EP-350227-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EP-164273-A.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  refugent of hypertension and related disorders - with synthetic peptide fragment of atrial natriuretic factor pro:hormone of solumn 4: 19pp; English.

Disclosure; Column 4: 19pp; English.

This sequence represents the human atrial natriuretic factor prohormone (proANF). Fragments of this sequence (see W44521'W3452) can be used in the mathod of the invention. The method is for treating hypertension, congestive heart failure, pulmonary odedma, toxemina of pregnancy, nephrotic syndrome, acute and chronic renal failure or hepatic cirrhosis with or without ascites comprises administering a synthetic peptide on the proant of amino acids 1:30, 31-67 or 79-98 of proANF. The peptides proANF(1-30) and proANF(3-199) can also be used in a method for treating hyperkalaemia associated with acidosis, digitalis overdose, succinylcholine, insulin deficiency, acute or chronic renal failure, duretic, natriuretic and/or kalluretic activity.

Sequence 126 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ô
                                                                                    Human atrial natriuretic factor prohormone.
Human atrial natriuretic factor prohormone; therapy; hypertension; congestive heart failure; pulmonary oedema; toxaemia of pregnancy; nephrotic syndrome; renal failure; hepatic cirrhosis; hyperkalaemia; acidosis; digitalis overdaes; insulin deficiency; Addison's disease; proANF; hyperaldosteronism.
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Pred. No. 2.60e-21;
0; Mismatches 0; Indels
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P51240;
03-AUG-1992 (first entry)
Sequence of pro-atrial natriuretic/vasodilator polypeptide
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (BIOT.) BIOTECHNOL RES PART.
Johnson LK, Atlas SA, Mccarthy BJ, Laragh JH, Lewicki JA,
WPI: 85-289654446.
New atrial poly:peptide cpds. - useful as natriuretics,
diuretics, vasodilators and modulators of the
renin-angiotensin-aldosterone system
Claim 8; Page 116; 144pp; English.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90 lralltaprslrrsscfggrmdrigaqsglgcnsfry 126
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venin-angiotensin-aldosterone-system
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Best Local Similarity 100.0%;
Matches 37; Conservative
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                                            (first entry)
                                                                                                                                                                                                                                                                                                                                                                                                                                                             09-MAR-1995; 401246.
09-MAR-1995; US-401246.
29-SEP-1987; US-102477.
01-MAY-1990; US-517252.
14-NOV-1991; US-799211.
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01-JUN-1984; US-616488.
20-JUN-1984; US-622639
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16-APR-1985; U00658.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            WPI; 98-017684/02
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                                                                                                                                                                                                                                                                                                                                             Homo saptens
USS691310-A.
W34533;
24-Mar-1998
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Gaps

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Mammal.

(ANVP)

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147

Sequence Query Match

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New DNA sequences from human atrium cordis - coding for new dirretic polypeptide or precursor cpds.

directic polypeptide or precursor cpds.

The precursor of human gamga-shap and its 26Asn-151Tyr fragmentare claimed (P50036, P50037), as are the DNA SQs encoding them (N50020,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Disclosure; Fig 1A; 45pp; English.

This sequence is encoded by the human pre-pro atrial natriuretic/vasodilator peptide (ANVP) DNA. Fragments of this protein and the corresponding sequence in rat (see also R36936), may be used for regulation of fluid volume and blood pressure in host organisms. The ANVP fragments may be produced by solid-phase techniques. See also R36937.78.
                                                                                                                                                                                  Human, pre-pro, atrial natriuretic/vasodilator peptide; ANVP; rat; regulation; fluid volume; blood pressure.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    - useful as natriuretic, diuretic and/or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence of the precursor of human gamma-atrium natriuretic polypeptide (ANP).
Natriuretic; diuretc; hypotensive; antihypertensive.
Homo sapiens.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matsuo H, Kangawa K, Hayashi Y, Oikawa S, Oshima T,
Tanaka S, Nakazato H, Tawaragi Y;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                115 lralltaprslrrsscfggrmdrigagsglgcnsfry 151
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            42..151 /note= "Mature protein"
                                                                                                                                                                                                                                                                          /note= "Signal peptide"
                                                                                                                                                                                                                                        Location/Qualifiers
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P50036 standard; Protein; 151 AA
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R36934 standard; Protein; 151
                                                                                                                                                                                                                                                                                                                                                                                                                                            (SCIO-) SCIOS NOVA INC.
Lewicki JA, Scarborough RM:
WPI; 93-175525/21.
N-PSDB; 041454.
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Best Local Similarity 100.0%;
Matches 37; Conservative
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                                                                                                                                                    14-SEP-1993 (first entry)
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08-JUN-1984; 116605.
08-JUN-1984; JP-116606.
08-JUN-1984; JP-116605.
(SUNR ) SUNTORY LTD.
                                                                                                                                                                                                                                                                                                                                                                              US-602117.
US-616488.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  New polypeptide cpd. - vasodilator in mammals
                                                                                                                                                                                                                                                                                                                                                                                                              08-MAY-1985; US-766030
05-JUN-1986; US-870795
                                                                                                                                                                       Human pre-proANVP #1
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N-PSDB; N50020.
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09-APR-1984; 6
09-APR-1984; U
                                                                                                                                                                                                                        Homo sapiens.
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                                                                                                                                                                                                                                                        peptide
                                                                                                                                                                                                                                                                                            protein
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Physio-active peptide derived from birds - has cysteine bridge, specified As sequence and diuretic and antihypertensive properties. Disclosure: Fig 14; 16pp; Japanese.
This sequence has 99 amino acid residues homologous to the pre-changsee also Q03466-Q03468, R03301 and R03402.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                New polypeptide cpd. - useful as natriuretic, diuretic and/or vasodilator in mammals
Disclosure; Fig 1B, 45pp; English.
This sequence is encoded by the human pre-pro atrial natriuretic/vasodilator peptide (ANVP) cDNA. Fragments of this protein and the corresponding sequence in rat (see also R3695), may be used for regulation of fluid volume and blood pressure in host organisms. The ANVP fragments may be produced by solid-phase techniques. See
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                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                      Human, pre-pro; atrial natriuretic/vasodilator peptide, ANVP; rat, regulation; fluid volume; blood pressure.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 136;
                                 DB 2; Length 126;
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                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence of pre-human airial natriuretic peptide. Human-chANP; diuretic; antihypertensivity; ss. Homo sapiens.
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Pred. No. 2.60e-21;
0; Mismatches 0;
                                                  Pred. No. 2.60e-21;
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                                 Score 279;
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R36935 standard; Protein; 136
R36935;
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WPI; 93-175525/21.
N-PSDB; Q41455.
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Best Local Similarity 100.0%;
Matches 37; Conservative
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Best Local Similarity 100.0%;
Matches 37; Conservative
                                                Best Local Similarity 100.0%;
Matches 37; Conservative
                                 100.08;
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                                                                                                                                                                                                                                        14-SEP-1993 (first entry)
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14-JUL-1988; 173739.
14-JUL-1988; JP-173739.
                                                                                                                                                                                                                                                                                                                                                              09-APR-1984; 602117.
09-APR-1984; US-602117.
01-JUN-1984; US-616488.
08-MAY-1985; US-766030.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                   (SCIO-) SCIOS NOVA INC
                                                                                                                                                                                                                                                           Human pre-proANVP #2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            136 AA;
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126 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (MATS/) Matsuo T.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          also R36937-78
                                                                                                                                                                                                                                                                                                             Homo sapiens.
US5212286-A.
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Seguence

셤 ô 02025499-A.

R03301;

Sequence

18-MAY-1993.

RESULT

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Gaps

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03-AUG-1992
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                                                                                                                                                                                      Seguence
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   corresp. DNA sequences, useful as antihypertensive agents.
Disclosure; Fig. 13; 45pp; English.
The DNA encoding the cardiodilatin is carried on plasmid pHANR48.
Cardiodilatin is a muscle relaxant, so is useful as an antihypertensive agent: The DNA is obtd. from RNA isolated from the human heart.
Sequence 151 AA;
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                                                                                                                                                                                                                   Gaps
                                13
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      28-OCT-1991 (first entry)
Cardiodilatin peptide.
Cardiodilatin; plasmid pHANF48; muscle relaxant; antihypertensive.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                human atrial natriuretic peptide factor (ANF)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Expression vector contg. gene for cardionatrin or cardiodilatin corresp. DNA sequences, useful as antihypertensive agents.
N50055). The 26Asn-151Tyr fragment has a diuretic action so is useful as a hypotensive/antihypertensive agent. The usual dose
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Genetic analysis diagnostic for hypertension - by detecting polymorphous of the renin, kallikrein or ANF gene regions Disclosure, Fig 2; 51pp; English. The patent application is for a method used for determn. of a genetic fingerprint of a subject which allows early diagnosis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
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12-OCT-1984; JP-213897.
(MITU) Mitebubishi Chemical Industries Ltd.
Nakanishi S, Teranishi Y, Nagahari K, Shibui T, Takamatsu K;
WPI; 85-271495/44.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 279; DB 3; Length 151;
Pred. No. 2.60e-21;
0; Mismatches 0; Indels
                                                                                                                                                         Length 151;
                                                                                                                                                                                                                Indels
                                                                                                                                                Score 279; DB 3; Le
Pred. No. 2.60e-21;
0; Mismatches 0;
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P70629 standard; protein; 151 AA
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11-JUN-1986; US-873199.
(BIOT-) BIOTECHN RES PARTN.
Shine J. Baker AR, Frossard PM;
WPI; 87-136035/19.
                                                                                                                                                                                                                                                                                                                                                                                                                             T 10
P50050 standard; protein; 151
P50050;
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Best Local Similarity 100.0%;
Matches 37; Conservative
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Best Local Similarity 100.0%;
Matches 37; Conservative
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W08702709-A.
07-MAY-1987.
24-GCT-1986; U02293.
24-GCT-1985; US-790813.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             11-APR-1985; 400726.
12-APR-1984; JP-073663.
21-JUN-1984; JP-128335.
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                                                                                      151 AA;
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EP-159943-A.
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                                                         01-1 mg/kg.
                                                                                         Sequence
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This sequence was Isolated from a cDNA library prepared from
poly(A) mRNA isolated from human heart. Sequences complementary
to the DNA encoding MERIG of cardionatrin were isolated using
a mixture of oligonucleotide probes. Two plasmids, phAVD and phMANP,
identified by this screening process, were then used to transform
E coll which were cultured to produce the peptide.
                                                                                                                                                                                                                                                      Gaps
individuals at risk of hypertension and permits early therapeutic measures to prevent the fatal symptomology of the disease. The section of the genome which is fingerprinted or otherwise subject is study using the results is dependent on the nature of the probe. The probes useful in the present invention are selected from the renin, kallikrein, or ANF gene (see FT).
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Sequence of pre-pro-atrial natriuretic/vasodilator polypeptide
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                                                                                                                                                                              Length 125
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16-APR-1985; U00658.
19-APR-1984; US-602117.
01-JUN-1984; US-616488.
20-JUN-1984; US-622639.
(BIOT-) BIOTENDL RES PART.
Johnson LK, Atlas SA, Mccarthy BJ, Laragh JH, Lewicki JA;
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Best Local Similarity 100.0%; Pred. No. 5.96e-20;
Matches 36; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                    115 lralltaprslrrsscfggrmdrigaesglgcnsfry 151
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venin-angiotensin-aldosterone-system.
Mammal.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Location/Qualifiers
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16-NOV-1990 (first entry)
Vascodilatory peptide, cardionatrin.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     т 13
P51239 standard; peptide; 150 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biologically prepared peptide has vein relaxation activity.
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18-SEP-1986, 220835.
18-SEP-1986, JP-220835.
(MITU) Mitsubishi Chem Ind KK.
WPI; 88-170991/25.
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Best Local Similarity 97.3%;
Matches 36; Conservative
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P82656 standard; protein;
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Search completed: Wed Jun 16 12:48:39 1999 Job time : 45 secs.
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Best Local Similarity 91.9%;
Matches 34; Conservative
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                         New atrial poly:peptide cpds. - useful as natriuretics, diuretics, vasodilators and modulators of the renin-angiotensin-addosterone system (21aim 7; Page 115; 144pp; English.

The inventors claim a polypeptide comprising atrial natriuretic/vasodilator polypeptide (ANVP), pro-ANVP or pre-pro-ANVP, or their fragments. The encoding DNA sequence is also claimed. The claimed polypeptides are natriuretics, diuretics, vasodilators and modulators of the renin-angiotensin-aldosterone system. Dose is
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New atrial poly:peptide cpds. - useful as natriuretics, diuretics, vasodilators and modulators of the renin-angiotensin-aldosterone system

Example: Fig 1A: 144pp: English.

The inventors claim a polypeptide comprising atrial natriuretic/ vasodilator polypeptide (ANVP), pro-ANVP or pre-pro-ANVP, or their fragments. The encoding DANS sequence is also claimed. The claimed polypeptides are natriuretics, diuretics, vasodilators and modulators of the renin-anglotensin-aldosterone system. Dose is
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Pred. No. 5.96e-20;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                             Score 267; DB 4; Length 150;
Pred. No. 5.96e-20;
0; Mismatches 0; Indels
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WPI; 85-289654/46.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 03-A0G-1992 (first entry)
Sequence of pre-pro-atrial natriuretic/vasodilator
Polypeptide (ANVP).
Natruiretic; duiretic; vasodilator;
venin-angiotensin-aldosterone-system.
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Rat atrial natriuretic factor-beta.
Atrial natriuretic factor; diuretic; hypotensive.
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/note= "encoded by N50763"
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P51241 standard; peptide; 150 AA
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19-APR-1984; US-602117.
01-JUN-1984; US-616488.
20-JUN-1984; US-612639.
(BIOT-) BIOTECHNOL RES PART.
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Best Local Similarity 100.0%;
Matches 36; Conservative
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Best Local Similarity 100.0%;
Matches 36; Conservative
                                                                                                                                                                                                                                                                                                       0.01-100 ug/kg.
Sequence 150 AA;
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85-289654/46
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Key
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The rat atrial natriuretic factor-beta has diuretic, natriuretic and hypotensive or hypertensive activity. Sequence 43 AA;
                                                                     28-FEB-1985; 301364.
02-MAR-1984; JP-038816.
(SUNR) SUNTORY LTD.
MATSUO H, KRHOWA K;
WPI; 85-218548/36.
New diuretic, antihypertensive polypeptide - isolated from rat
                                                                                                                                                                                                                                                                                                                                                                              Score 264; DB 3; Length 48;
Pred. No. 1.30e-19;
3; Mismatches 0; Indels
                                                                                                                                                                                                                                atrium cordis.
Claim 1; Page 17; 23pp; English.
disulfide_bond 27..43
                             EP-153865-A.
04-SEP-1985.
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asse 3 Tight D D Cotein We We L not	Pation: (1-37) from vander027777.pep Cap 1 LRALLTAPRSLRRSSCFGGRWDRIGAQSCLGGCNSFRY 37 LARALTAPRSLRRSSCFGGRWDRIGAQSCLGCNSFRY 37 LARALTAPRSLRRSSCFGGRWDRIGAQSCLGCNSFRY 37 Cap 1 LRALLTAPRSLRRSSCFGGRWDRIGAGSCRGCNSFRY 37 Listing first 45 summaries Listing first 65 summaries Listing first 65 summaries Listing first 67 summaries Listing first 68 summaries Listing first 68 summaries Listing first 68 summaries Listing first 68 summaries Score greater than or equal to the score of the result being printe and is derived by analysis of the total score distribution. Score first 68 summaries Summ	32 US-08-470- Sequence 18, Applicati 1.2 US-08-470- Sequence 5, Applicatio 2.2 US-08-470- Sequence 5, Applicatio 2.2 US-08-470- Sequence 5, Applicatio 2.2 US-08-451- Sequence 5, Applicatio 2.2 US-08-451- Sequence 5, Applicatio 2.4 US-08-297- Sequence 1, Applicatio 9.4 US-08-297- Sequence 1, Applicatio 9.4 US-07-754- Sequence 2, Applicatio 9.4 US-08-184- Sequence 1, Applicatio 9.4 US-08-184- Sequence 1, Applicatio 9.4 US-07-828- Sequence 1, Applicatio 9.4 US-07-828- Sequence 2, Applicatio 9.4 US-08-966- Sequence 2, Applicatio 9.4 US-08-968- U

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Sequence 9, Applicatio
Sequence 9, Applicatio
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Sequence 2, Applicatio Patent No. 5461142.
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APPLICANT: LEMICKI, JOHN A.; SCARBOROUGH, ROBERT M.
TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPTIDE COMPUNDS

NUMBER OF SEQUENCES: 68
CURRENT 'APPLICATION DATA:
APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
CREATING DATE: 06-JUN-1985
CREATING DATE: 08-MAY-1985
CREATING DATE: 09-APPLICATION NUMBER: 602,117
FILING DATE: 09-APPR-1984
CREATING DATE: 01-JUN-1984
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LENGTH: 136
SEQUENCE 147 AA; 15978 MW; 112999 CŅ;
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                                            US-07-754-
US-08-451-
PCT-US94-0
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US-07-754-

US-08-240-

US-08-240-

PCT-US94-1

US-07-781-

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US-07-781-

US-07-781-

US-08-451-

PCT-US94-1
                      US-08-288-
PCT-US94-1
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US-07-754-
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Best Local Similarity 100.0%;
Matches 37; Conservative
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                                         TITLE OF INVENTION: EXPRESSION OF RECOMBINANT POLYPEPTIDES WITH IMPROVED PURIFICATION
NUMBER OF SEQUENCES: 16
CURRENT APPLICATION DATA:
APPLICATION UNMBER: US/08/564,259
FILING DATE: 07-AUG-1990
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TITLE OF INVENTION: EXPRESSION OF RECOMBINANT POLYPEPTIDES
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APPLICANT: TARNOWSKI, JOSEPH S.;HILLIKER, SANDRA; WILLETT, SCOTT W.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: FORSSMANN, WOLF-GEORG; ALT, JEANETTE M.; BECKER, GENHARD; HERBST, FRANZ
TITLE OF INVENTION: CARDIODILATIN FRAGMENT, PROCESS FOR NUMBER OF SEQUENCES: 4
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/185,240
FILING DATE: 24-3N-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 994,084
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Pred. No. 9.03e-19;
                                                                                                                                                                                            Length 144;
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Pred. No. 9.03e-19;
1; Mismatches 0; Indels
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NUMBER OF SEQUENCES: 16
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/564,259
FILLING DATE: 07-AUG-1990
SEQ ID NO:3:
LENGTH: 144
                                                                                                                                               LENGTH: 144
VCE 156 AA; 17116 MW; 129679 CN;
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ilarity 92.3%; !
Conservative
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Best Local Similarity 92.3%;
Matches 36; Conservative
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Matches 36; Conserv
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Patent No. 5202239
                                                                                                                                 SEQ ID NO:1:
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                                                                                                                                                                                                                                                                                                                                                                                                      01-JAN-1900
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5202239-3
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5449751-3
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                                                                                                                                                               SEQUENCE
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ID 54
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Pred. No. 4.01e-20;
3; Mismatches 0; Indels
                                                                                                                                                                                                                                                                   Length 151;
                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No. 5212286
APPLICANT: LEWICKI, JOHN A.: SCARBOROUGH, ROBERT M.
TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR
PEPTIDE COMPUNDS
NUMBER OF SEQUENCES: 68
 APPLICANT: LEWICKI, JOHN A.; SCARBOROUGH, ROBERT M. TITLE OF INVENTION: ATRIAL NATRIURETIC/VASODILATOR PEPTIDE COMPUNDS
                                                                                                                                                                                                                                                                   Score 279; DB 4; 1
Pred. No. 8.03e-22;
0; Mismatches 0.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   114 LRALLAGPRSLRRSSCFGGRIDRIGAQSGLGCNSFRY 150
                                                                                                                                                                                                                                                                                                                               115 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                                                             1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                        CURRENT APPLICATION DATA:

APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-UNH-1986
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 766,030
FILING DATE: 09-MAX-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: US/07/870,795
FILING DATE: 05-JUN-1986
PRIOR APPLICATION DATE:
APPLICATION NUMBER: 766,030
FILING DATE: 08-MAY-1985
APPLICATION NUMBER: 602,117
FILING DATE: 09-APR-1984
APPLICATION NUMBER: 616,488
FILING DATE: 01-JUN-1984
                                                                                                                                                                                                                                                                                                                                                                                                                       165 AA
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                                                                                                                                                                                                                         LENGTH: 151
SEQUENCE 164 AA; 17827 MW; 143008 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
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Best Local Similarity 91.9%;
Matches 34; Conservative
                                                                                                                                                                                                                                                                   Ouery Match
Best Local Similarity 100.0%;
Matches 37; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Patent No. 5212286.
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                                                                                                                                                                                                           SEQ ID NO:2
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ID 5202239-1
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RESULT

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XEXEXEX

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SEQ ID NO:3:

88888888888

SEQUENCE

01-JAN-1900

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RESULT

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Sequence 4, Application US/08737927

Patent No. 5767239

GENERAL INFORMATION:
APPLICANT: IMMER, Hansueli
APPLICANT: ADERMANN, Wolf-Georg
APPLICANT: ADERMANN, Knut
APPLICANT: ALESSEN, Christian
TITLE OF INVENTION: PROCESS AND INTERNEDIATE PRODUCTS FOR
TITLE OF INVENTION: PREPARING CARDIODILATIN FRAGMENTS, AND HIGHLY PURIF.
TITLE OF INVENTION: CARDIODILATIN FRAGMENTS, AND HIGHLY PURIF.
NUMBER OF SEQUENCES: 5
                APPLICANT: Oare, pavid
APPLICANT: McDowell, Robert S.
APPLICANT: McDowell, Robert S.
APPLICANT: Burnier, John
TITLE OF INVENTION: PECEPTOR SPECIFIC ATRIAL NATRIURETIC
TITLE OF INVENTION: PEPTIDES
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 32;
                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score 242; DB 1; 1
Pred. No. 1.20e-17;
0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    32 AA
                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS SOFTWARE: patin (Genentech) CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/451,240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        6 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                  STREET: 460 Point San Bruno Blvd CITY: South San Francisco STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICATION NUMBER: 08/152994
FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 4, Application US/08737927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    32 AA; 3508 MW; 4652 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    36,575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: 415/902 CTELEFAX: 415/902 CTELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 2: SEQUENCE CHARACTERISTICS: LENGTH: 32 amino acids TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION
Cunningham, Brian
                                                                                                                                                      Genentech, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/362
FILING DATE: 06-JAN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/152
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    REGISTRATION NUMBER: 36, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE: 415/225-8228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kubinec, Jeffrey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ouery Match
Best Local Similarity 100.0%;
Matches 32; Conservative
                                                                                                                                                                                                                                COUNTRY: USA
                                                                                                                                                                                                                                                94080
                                                                                                                                                                                                                                                                                                                                                                                                            FILING DATE:
                                                                                                                                                      ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US-08-737-927-4
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVENTION: CARDIODILATIN FRAGMENT, PROCESS FOR PREPARING SAME AND USE THEREOF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 242; DB 4; Length 32;
Pred. No. 1.20e-17;
                                                                                                                                                                                                              Length 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
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APPLICATION NUMBER: US/08/185,240
FILING DATE: 24-JAN-1994
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1 TAPRSLRRSSCFGGRMDRIGAOSGLGCNSFRY 32
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                                                                                                                                                                                                                                                                                          1 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER: 795,248
FILING DATE: 18-NOV-1991
APPLICATION NUMBER: 401,401
FILING DATE: 01-SEP-1989
APPLICATION NUMBER: 100,144
FILING DATE: 28-AUG-1987
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        35 AA; 3838 MW; 6483 CN;
                  APPLICATION NUMBER: 795,248
FILING DATE: 18-NOV-1991
APPLICATION NUMBER: 401,401
FILING DATE: 01-5EP-1989
APPLICATION NUMBER: 100,144
FILING DATE: 28-AUG-1987
                                                                                                                                                      LENGIH: 32
4CE 35 AA; 3838 MW; 6483 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICATION NUMBER: 994,084
FILING DATE: 16-DEC-1992
  FILING DATE: 16-DEC-1992
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Best Local Similarity 100.0%;
Matches 32; Conservative
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                                                                                                                                                                                                              Query Match 86.7%;
Best Local Similarity 100.0%;
Matches 32; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                            STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Patent No. 5449751.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patent No. 5449751
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Gaps

SEQ ID NO:1

SEQUENCE

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APPLICANT: Lowe, pavid G.
APPLICANT: Cunningham, Brian C.
APPLICANT: Oare, David
APPLICANT: Oare, David
APPLICANT: McDowell, Robert S.
APPLICANT: Burlowell, Robert S.
APPLICANT: BURLOWELLY, SOMERY BURLOWERS.
TITLE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC PEPTIDES
                                                                                                                                                                                                                                                                                                                                                                                                             ö
                                                                                                                                                                                                                                                                                                                                                                             Score 242; DB 3; Length 32;
Pred. No. 1.20e-17;
                                                                                                                                                                                                                                                                                                                                                                                                             0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET: Genearceh, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 94080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/470,846A
FILING DATE: 06'Jun-1995
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SSOFTWARE: PALIN (Genentech)
SSOFTWARE: PALICATION DATA:
APPLICATION NUMBER: PCI/US94/12591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                          1 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 32
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence 18, Application US/08470846A
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WinPatin (Genentech)
                                                                                       CLASSIFICATION:
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/152994
FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              JMBER: 08/419877
11 APR-1995
                                                                                                                                                                                           REFERENCE/DOCKET NUMBER: 844
TELECOMMUNICATION INFORMATION:
TELEPAX: 415/925-1249
TELEFAX: 415/925-9881
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                 32 AA; 3508 MW; 4652 CN;
                                                                                                                                                                                  32,637
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STANDARD;
                                                                                                                                                                                                                                                                                                     : 32 amino acids
amino acid
                                                                                                                                                                  NAME: Winter, Daryl B. REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRIOR APPLICATION DATA:
APPLICATION NUMBER: C
FILING DATE: 11 APPR-1
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Best Local Similarity 100.0%;
Matches 32; Conservative
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MEDIUM TYPE: 3.5 inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          COMPUTER: IBM PC OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION:
APPLICANT: Genent
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                                                                            FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LT 11
US-08-470-846A-18
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                                                                                                                                                                                                                                                                                                                                   TOPOLOGY:
                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                   SEQUENCE
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APPLICANT: Cowe, David
APPLICANT: Lowe, David
APPLICANT: Cunningham, Brian C.
APPLICANT: Oare, David
APPLICANT: McDowell, Robert S.
APPLICANT: Burnier, John
TITLE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC
TITLE OF INVENTION: PEPTIDES
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 242; DB 2; Length 32;
Pred. No. 1.20e-17;
0; Mismatches 0; Indels
               SEE: Nikaido, Marmelstein, Murray & Oram: 655 Fifteenth Street N.W. Suite 330 Washington
                                                                                                                                                                 PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 94080
COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           6 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADDRESSEE: Genentech, Inc.
STRET: 460 Point San Bruno Blvd
STRET: South San Francisco
STATE: California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRT;
                                                                                                                                                                             CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/737,927
                                                                                                                                                                                                                         CLASSIFICATION: 424
PRIOR APPLICATION DATA:
APPLICATION NUMBER: W0 95/33769
FILING DATE: 14-DEC-1995
ATTORNEY/AGENT INFORMATION:
                                                                                                                                   COMPUTER: IBM PC COMPATIBLE OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2, Application PC/TUS9412591
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 2, Application PC/TUS9412591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE TYPE: peptide
JENCE 32 AA; 3508 MW; 4652 CN;
                                                                                                                                                                                                                                                                                                                    36,105
                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION TELEPHONE: (202)638-5000
                                                                                                                        Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STANDARD;
                                                                                                                                                                                                                                                                                                                                                                             (202)638-4810
                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
LENGTH: 32 amino acids
                                                         STATE: D.C.
COUNTRY: U.S.A.
2IP: 20005-5701
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy di
                                                                                                                                                                                                                                                                                                     NAME: Kitts, Monica C. REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 100.0%;
Matches 32; Conservative
   CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                         amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        linear
                                                                                                                                                                                                              FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 10
ID PCT-US94-12591-2
                 ADDRESSEE:
STREET: 6
                                                                                                                                                                  SOFTWARE:
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XXXXXX

Gaps

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Sequence 5, Application PC/TUS9412591
GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
APPLICANT: Lowe, David
APPLICANT: Care, David
APPLICANT: Oare, David
APPLICANT: Oare, David
APPLICANT: WcDowell, Robert S.
APPLICANT: Burnier, John
TITLE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC
TITLE OF INVENTION: PEPTIDES
NUMBER OF SEQUENCES: 47
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
                                                                                                                                                                                                                                            Length 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk COMPUTER: IBM PC compatible OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                          Score 221; DB 2; I
Pred. No. 2.67e-15;
1; Mismatches 1;
                                                                                                                                                                                                                                                                                                                                                                                           32 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STRRES:
STRRET: Genentech, Inc.
STRRET: Genentech, Inc.
CITY: South San Francisco
STATE: California
COUNTRY: USA
ZIP: 940°
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: PCI/US94/12591
                                                                     P0844P2C1
                                                                                                                                                                                                                                                                                                                     6 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                    1 TAPRSLRRSSCFGGRIDRIRAQSGLGCNSFRY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/152994
FILING DATE: 12-NOV-193
ATTORNEY/AGENT INFORMATION:
NAME: Winter, Daryl B.
REGISTRATION NUMBER: 32,637
REFERRNCE/DOCKET NUMBER: 644P1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 5, Application PC/TUS9412591
APPLICATION NUMBER: 08/152994 FILING DATE: 12-NOV-1993 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                  TOPOLOGY: Linear
CE 32 AA; 3589 MW; 4484 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IELECOMMUNICATION INFORMATION
  TELEPHONE: 415/225-1249
                                                      REGISTRATION NUMBER: 36,57:
REFERENCE/DOCKET NUMBER: PTELECOMUNICATION INFORMATION TELEPHONE: 415/225-8228
                                                                                                           TELEFAN: 415/952-9881
TELEY: 910/371-7168
INFORMATION FOR SEQ ID NO: 5:
SEQUENCE CHARACTERISTICS:
LENGTH: 32 amino acids
                                              Kubinec, Jeffrey S
                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                          Query Match 79.2%;
Best Local Similarity 93.8%;
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 in
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                                                                                                                                                                                      Amino Acid
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PCT-US94-12591-5
                                              NAME:
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  Sequence 5, Application US/08470846A

Patent No. 5846932

GENERAL INFORMATION:
APPLICANT: Genentech, Inc.
APPLICANT: Coure, David G.
APPLICANT: Coure, David G.
APPLICANT: Oare, David APPLICANT: Oare, David APPLICANT: WCDOWell, Robert S.
APPLICANT: Burnier, John
TITLE OF INVENTION: RECEPTOR SPECIFIC ATRIAL NATRIURETIC PEPTIDES
NUMBER OF SEQUENCES: 43
CORRESPONDENCE ADDRESS:
ADDRESSEE: Genentech, Inc.
STREET: 460 Point San Bruno Blvd
CITY: South San Francisco
STATE: California
COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                     Gaps
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                                                                                                                                                                                                                                                                                                       Length 32;
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COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5 inch, 1.44 Mb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/NS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                   32 AA.
                                                                                                                                                                                                                                                                                                    Ouery Match 86.7%; Score 242; DB 2; I Best Local Similarity 100.0%; Pred. No. 1.20e-17; Matches 32; Conservative 0; Mismatches 0;
                                                                                                  NAME: Kubinec, Jeffrey S.
REGISTRATION NUMBER: 36,575
REFRENCE/DOCKET NUMBER: P0844P2C1
TELECOMMUNICATION INFORMATION:
TELEPHONE: 415,225-828
TELEX: 910/371-7168
INFORMATION FOR SEQ ID NO: 18:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER: US/08/470,846A FILING DAFE: 06-40n-1995 CLASSIFICATION: 514 PRIOR APPLICATION DATA: APPLICATION NUMBER: 08/419877 FILING DATE: 11-APR-1995 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                 1 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 32
                                                                                                                                                                                                                                                                                                                                                                               6 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/362552
FILING DATE: 06-JAN-1995
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/152994
FILING DATE: 12-NOV-1993
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: WinPatin (Genentech) CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  JMBER: 08/362552
06-JAN-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 5, Application US/08470846A
                                                                                                                                                                                                                                                               LOGY: Linear
32 AA; 3508 MW; 4652 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                     STANDARD;
                                                                                                                                                                                                              SEQUENCE CHARACTERISTICS:
LENGTH: 32 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 06-JAN
                                                                                                                                                                                                                                               Amino Acid
                                                                                                                                                                                                                                                                                                                                                                                                                                      JT 12
US-08-470-846A-5
                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                                                                                                                                                                                           SEQUENCE
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Search completed: Wed Jun 16 12:51:46 1999 Job time : 7 secs.
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Best Local Similarity 100.0%;
Matches 28; Conservative
Query Match
Best Local Similarity 93.8%;
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                              STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Patent No. 5449751.
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                                                                                                                                                                                                                                                                                                LT 15
5449751-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patent No
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APPLICANT: Cuningham, Brian
APPLICANT: Cuningham, Brian
APPLICANT: McDowell, Robert S.
APPLICANT: Burnier, John
APPLICANT: APPLICANTED S.
APPLI
                                                                                                                                                                                                                            Length 32,
                                                                                                                                                                                                                                                                                                l; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER READABLE FORM:
MEDIUM TYPE: 5.25 inch, 360 Kb floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                            Score 221; DB 3;
Pred. No. 2.67e-15;
1; Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          32 AA.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE: patin (Genentech)
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/451,240
                                                                                                                                                                                                                                                                                                                                                                1 TAPRSLARSSCFGGRIDRIRAQSGLGCNSFRY 32
                                                                                                                                                                                                                                                                                                                                                                                              6 TAPRSLERSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEE: Genentech, Inc.
: 460 Point San Bruno Blvd
South San Francisco
California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence 5, Application US/08451240 Patent No. 5665704 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CLASSIFICATION: 530
PRIOR APPLICATION DATA:
APPLICATION UNBER: 08/362552
FILING DATE: 06-JAN-1995
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            08/152994
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32 AA; 3589 MW; 4484 CN;
                                                                                                                                       LOGY: linear
32 AA; 3589 MW; 4484 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILING DATE: 12-NOV-1993 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME: Kubinec, Jeffrey
REGISTRATION NUMBER: 3(
                                                                LENGTH: 32 amino acids TYPE: amino acid
   INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                            Query Match
Best Local Similarity 93.8%;
Matches 30; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             amino acid
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-451-240-5
                                                                                                                                TOPOLOGY:
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX:
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STATE:
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                                                                                                                                                                                                                                                                                                                                                              APPLICANT: FORSSMANN, WOLF-GEORG; ALT, JEANETTE M.; BECKER, GERHADD; HERBST, FRANZ
TITLE OF INVENTION: CARDIODILATIN FRAGMENT, PROCESS FOR PREPARING SAME AND USE THEREOF NUMBER OF SEQUENCES: 4
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/185,240
Score 221; DB 1; Length 32;
Pred. No. 2.67e-15;
1; Mismatches 1; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Length 28;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           0; Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PILING DATE: 24: JAN-1994
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 994,084
FILING DATE: 16-DEC-1992
APPLICATION NUMBER: 994,084
                                                                                                                                                                                            30 AA
                                                                                                6 TAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                             1 TAPRSLRRSSCFGGRIDRIRAQSGLGCNSFRY 32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 216;
Pred. No. 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       10 SLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1 SLRRSSCFGGRMDRIGAQSGLGCNSFRY 28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH: 28
ICE 30 AA; 3303 MW; 4581 CN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 18+NOV-1991
APPLICATION NUMBER: 401,401
FILING DATE: 01+SEP-1989
APPLICATION NUMBER: 100,144
FILING DATE: 28-AUG-1987
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protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed Jun 16 12:48:57 1999; MasPar time 4.75 Seconds 311.884 Million cell updates/sec Run on:

Tabular output not generated.

>vander-027-213.PEP (1-37) from vander027777.pep 279 1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37 Description: Perfect Score: Sequence:

122810 seqs, 40068593 residues PAM 150 Gap 11 Searched:

Scoring table:

Post-processing: Minimum Match 0% Listing first 45 summaries

pir60 1:pir1 2:pir2 3:pir3 4:pir4 Database:

Mean 32.756; Variance 52.653; scale 0.622 Statistics: Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

* C		
Match Length DB	ID Description	Pred.
100.0 151 1	AWHU natriuretic peptide	peptide A
100.0 152 1	atrial	natriuretic pe
98.9 149 1	atrial	natriuretic pe
98.9 150 1	atrial	natriuretic pe
98.9 153 2	atrial	natriuretic pe
96.8 153 1	AWRB atrial natrium	natriuretic pe
95.7 128 2	S14872 atrial natrium	natriuretic pe
94.6 152 1	AWRT atrial natriur	natriuretic fa
94.6 152 1	•	natriuretic pe
78.9 161 4	155480 hypothetical natriur	
		natriure
61.6 30 2		tical natriure natriuretic pe
		l natriure Luretic pe Luretic fa
56.3 131 2		l natriure luretic pe luretic fa secretion
		l natriure luretic pe luretic fa secretion aretic pep
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51.3 140 .2		I natriure luretic pe luretic fa secretion retic pep retic fac
		I natriure luretic pe luretic fa secretion iretic pep iretic pep
46.2 134 1		I natriure luretic pe luretic fa secretion retic pep retic fac retic pep I natriure
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S71381	JT0581	S15822	A36155	A55688	S12988	AWHUC	A61244	A49144	149548	B54119	A36399	A54119	A35418	A42974	T01948	B69314	H69214	S23457	A48900	S44280	A34076
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4.1.9	40.9	38.4	38.4	38.4	38.4	38.4	38.4	38.0	38.0	37.3	36.6	36.6	36.2	33.0	30.5	28.7	28.0	28.0	26.5	26.5	26.5
117	114	107	107	107	107	107	107	106	106	104	102	102	101	92	82	80	78	78	74	74	74
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RESULT ENTRY TITLE ALTERNATE_ CONTAINS ORGANISM DATE ACCESSIONS	REFERENCE #authors #journal #title #cross-r #accessi ##mol ##res ##res ##res ##res ##res	REFERENCE Fauthor # journal # title # cross # access # # # # # # # # # # # # # # # # # # #	REFERENCE. #author: #journa #title #cross- #access

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Query Match
Best Local Similarity 100.0%;
Matches 37; Conservative
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                                                                                                       Nakayama, K.; Ohkubo, H.; Hirose, T.; Inayama, S.; Nakanishi
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#journal Blochen. Blophys. Res. Commun. (1984) 125:797-802
#title
Cloning of genomic DNA for human atrial natriuretic factor.
#cross-references MUID:85096983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Nature (1984) 310:699-701 mRNA sequence for human cardiodilatin-atrial natriuretic factor precursor and regulation of precursor mRNA in rat
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#journal Eur. J. Biochem. (1991) 196:281-286
#title Hydrolysis of intact and Cys-Phe-cleaved human atrial natriuretic peptide in vitro by human tissue kallikrein.
#cross-references MUID:91176998
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##cross-references GB:K02044; NID:g178631; PID:g178632
NNCE 139459
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##cross-references GB:M30262; NID:g180181; PID:g180182
NNCE S14097
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##cross-references GB:K02399; NID:g178633; PID:g178634
NCE 139460
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##Cross-references GB:K02043
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Nature (1984) 312:656-658
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#domain signal sequence #status predicted #label SIG\
#product gamma atrial natriuretic factor #status
predicted #label Anr\
#product alpha atrial natriuretic peptide #status
experimental #label Anr\
#disulfide_bonds #status predicted
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##residues 1-152 ##label VLA
##cross-references GB:M13145; NID:g162665; PID:g162666
##cross-references GB:M13145; NID:g162665; PID:g162666
#304 #304 #3 # Monicoll, N.; Lazure, C.; Seidah, N.; Chretien, Cantin, M.; De Lean, A.
#journal Life Sch. (1986) 38:1309-1315
#title Purlification and sequence determination of bovine atrial natriuretic factor.
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ANP: atrial natriuretto polypeptide
#formal_name Bos primigenius taurus #common_name cattle
30-Jun-1989 #sequence_revision 30-Jun-1989 #text_change
20-Mar-1998
A90124; A93049; A24247; A26090
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#product cardiodilantin #status predicted #label C
#product atrial alpha natriuretic peptide #status
experimental #label ANP,
#dismilfide_bonds #status experimental
#length 151 #molecular-weight 16395 #checksum 3644
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#title Nucleotide sequence of the gene encoding human atrial natriuretic factor precursor.
#cross-references MulD:85061627
#accession 137167
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##residues
26-151 ##label RE5
##cross-references EMBL.X01471; NID:928690
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##cross-references GDB:118727; OMIM:108780
#map_position 1p36-1p36
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                                                                                                                                                                                                                                                                                                                                                                                                                      ructure of dog and rabbit precursors of atrial natriuretic polypeptides deduced from nucleotide sequence of cloned
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Nucleotide sequence of a porcine prepro atrial natriuretic peptide (AND).

OER MUID:91067478
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alpha atrial natriuretic peptide; gamma atrial natriuretic
factor (cardiodilatin)
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#product gamma atrial natriuretic factor #status
predicted #label ANF\
#product alpha atrial natriuretic peptide #status
predicted #label ANP\
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ANP; atrial natriuretic polypeptide
#formal_name Canis lupus familiaris #common_name dog
31.-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
22.-Jan-1999
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atrium; diuretic; hormone; natriuretic; osmoregulation
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#molecular-weight 16518 #checksum 7552
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Biochem. Biophys. Res. Commun. (1985) 132:892-899
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##residues 1-149 ##label OIK
##cross-references GB:M12045; NID:9163900; PID:9163901
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|th 149  #molecular-weight 15819 #
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Pred. No. 2.01e-44;
1; Mismatches 0;
                                   Score 279; DB 1; Le
Pred. No. 3.82e-45;
0; Mismatches 0;
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#accession A25302
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Best Local Similarity 97.3%;
Matches 36; Conservative
                                  vuery Match 100.0%;
Best Local Similarity 100.0%;
Matches 37; Conservative
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H.; Matsuo, H.
Blochm. Blophys. Res. Commun. (1985) 132:892-899
Structure of dog and rabbit precursors of atrial natriuretic
polypeptides deduced from nucleotide sequence of cloned
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atrial natriuretic peptide precursor - horse
formal_name Equus caballus #common_name domestic horse
20-Feb-1995 #sequence_revision 20-Feb-1995 #text_change
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31-Mar-1988 #sequence_revision 31-Mar-1988 #text_change
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#product gamma atrial natriuretic factor #status predicted #label Ana natriuretic peptide #status #product alpha atrial natriuretic peptide #status
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#disulfide_bonds #status predicted
th 150 #molecular-weight 16351 #checksum 9859
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FICATION #superfamily natriuretic peptide A precursor
X #length 153 #molecular-weight 16825 #checksum 960
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Carlquist, M.; Mutt, V.
Anat. Embryol. (1983) 168:307-313
The right auricle of the heart is an endocrine cardiodilatin as a peptide hormone candidate.
A60899
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Schulz-Knappe, P.; Forssmann, W.G.
submitted to the EMBL Data Library, March 1991
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Pred. No. 2.01e-44;
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Pred. No. 2.01e-44;
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nes 36; Conservative
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#formal_name Cavia porcellus #common_name guinea pig
20-Feb-1995 #sequence_revision 30-Jan-1998 #text_change
20-Mar-1998
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#product atrial natriuretic peptide #status predicted
#label MAT\
#disulfide_bonds #status predicted
#length 128 #checksum 8741
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#product gamma atrial natriuretic factor #status
Predicted #label ANF\
#product alpha atrial natriuretic peptide #status
#predicted #label ANP\
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ANF(2-33); ANF(2-33); ANF(8-33); ANF(8-33); atrial
natriuretic peptide; atriopeptin I; atriopeptin II;
auriculin A; auriculin B; preprocardionatrin
#formal_name Rattus norvegicus #common_name Norway rat
19-Feb-1984 #sequence_revision 15-Nov-1984 #text_change
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                  ##residues 1-153 ##label OIK
##cross_references GB:M120146; NID:g164770; PID:g164771
##CTOSS references GB:M120146; NID:g164700; PID:g164771
##CTOSS references GB:M1014014 PID:g164770; PID:g164771
##CTOSS references GB:M1014770; PID:g164770; PID:g164770
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#length 153 #molecular-weight 16843 #checksum 7650
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submitted to the EMBL Data Library, March 1991
S14872
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 267; DB 2; Length 128;
Pred. No. 2.86e-42;
                                                                                                                                                                                                                                                                                                                  Length 153;
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J. Biol. Chem. (1985) 260:4568-4571
The gene for rat atrial natriuretic factor.
                                                                                                                                                                                                                                                                                                              Score 270; DB 1; Le
Pred. No. 5.49e-43;
1; Mismatches 0;
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Best Local Similarity 94.6%;
Matches 35; Conservative
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Best Local Similarity 97.3%;
Matches 36; Conservative
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##molecule_type mRNA
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#authors Atlas, S.A.; Kleinert, H.D.; Camargo, M.J.; Januszewicz, A.; Sealey, J.E.; Laragh, J.H.; Schilling, J.W.; Lewicki, J.A.; Johnson, L.K.; Maack, T.
#journal Nature (1984) 309:717-719
#title vasoactive rat atrial peptide.
#cross-references MUID:84219796
#accession A93330
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                                                                                                                                                                                                                          the rat atrial
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#journal Science (1984) 225:324-326
#title The structure of rat preproatrial natriuretic factor as defined by a complementary DNA clone.
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##residues 1-152 ##label SEI
##cross-references GB:K02062; GB:K02063; NID:g202899; PID:g202900
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Purification and sequence analysis of bloactive atrial peptides (atriopeptins).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ##molecule_type mRNA
##residues 1-152 ##label MAK
##cross-references GB:X00665; EMBL:X00658; NID:955711; PID:955712
                                                                                ERENCE A93331

#authors Yamanaka, M.; Greenberg, B.; Johnson, L.; Seilhamer, Brewer, M.; Friedemann, T.; Miller, J.; Atlas, S.; J.; Laylcki, J.; Friedes, J.

#journal Nature (1984) 309:719-722

#title Cloning and sequence analysis of the cDNA for the rat natriuretic factor precursor.

#cross references MUID:84219797

#accession A01425
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the circulation: identification, radioimmunoassay
half-life.
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##molecule_type DNA
##residues 1-152 ##label ARG
##cross-references GB:K02062; NID:9202899; PID:9202900
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NNCE A93332
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Lazure, C.; Chretien, M.; Cantin, M.
Peptides (1988) 9:47-53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ##molecule_type protein
##residues 126-149 ##label ATL
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##residues 127-149 ##label CUR
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#accession PT0061
##molecule_type protein
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SENETICS

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Seidah, N.G.; Lazure, C.; Chretien, M.; Thibault, G.; Garcia,
R.; Cantin, M.; Genest, J.; Nutt, R.F.; Brady, S.F.; Lyle,
T.A.; Paleveda, W.J.; Colton, C.D.; Ciccarone, T.M.; Veber,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ##residues 1-51,'X',53-85,'X',87-152 ##label RE3
##cross-references GB:m27498; NID:9202905; PID:9202906
A disulfide bond is required for full activity of atriopeptins.
The Several active peptides may be derived from the carboxyl region of
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##residues 1-152 ##label FLY
##cross-references GB:K02062; NID:g202899; PID:g202900
##cross-references GB:K02062; NID:sequence, including the amino ends of thre
##note mature peptides, was confirmed by protein sequencing
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#fitle Identification of rat gamma atrial natriuretic polypeptide and characterization of the cDNA encoding its precursor.
#cross-references WID:#85061500
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Sakuragawa, Y.; Nakazato, H.; Fukuda, A.; Minamino, N.;
Matsuo, H.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Belcourt, D.; Varma, D.R.; Toney, K.; Bennett, H.P.J.
Protein Expr. Purif. (1990) 1:28-32
Purification of rat pro-atrial natriuretic factor: a
simplified scheme using reversed-phase high-performance
                                                                                                                                                                                                                                                                                                              Flynn, T.G.; Davies, P.L.; Kennedy, B.P.; de Bold, M.L.;
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#journal Can. J. Physiol. Pharmacol. (1987) 65:2013-2020
#title the elucidation of the structure of atrial natriuretic
#factor, a new peptide hormone.
#cross-references MUID:88109092
                                                                                                  #journal Proc. Natl. Acad. Sci. U.S.A. (1984) 81:2640-2644
#title Amino acid sequence of homologous rat atrial peptides:
natriuretic activity of native and synthetic forms.
#cross-references MUID:84194062
                                                                                                                                                                                                                                                                                                                                                                                     #Litle Alignment of rat cardionatrin sequences with the preprocardionatrin sequence from complementary DNA. #cross-references MUID:85168263
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##cross-references GB:M15868; NID:9202903; PID:9202904
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Science (1985) 228:323-325
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#cross-references MUID:93044510
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##residues 25-39 ##label BEL
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*product ANF(1-33) *status experimental *label ANF1\
*product ANF(2-33) *status experimental *label ANF3\
*product ANF(3-33) *status experimental *label ANF3\
*product Cardionatrin I *status experimental *label CNI\
*product ANF(8-33) *status experimental *label ANF4\
*product ANF(8-33) *status experimental *label ANF4\
*product auriculin B *status experimental *label AUB\
*product auriculin A *status experimental *label AUB\
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#product atriopeptin II #status experimental #label AT2\
#disulfide_bonds #status experimental
#length 152 #molecular-weight 16556 #checksum 7818
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predicted #label ANP,
#length 152 #molecular-weight 16645 #checksum 9384
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predicted #label ANF\
                                                                                                                                 #product pro-atrial natriuretic factor #status
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            #fittle Nucleotide sequences of the human and mouse atrial natriuretic factor genes.
#cross-references MUID:85065766
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #cross-references GB:K02781; NID:g191937; PID:g387099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 264; DB 1;
Pred. No. 1.49e-41;
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Seidman, C.E.; Bloch, K.D.; Klein,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. No. 1.49e-41;
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Science (1984) 226:1206-1209
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Best Local Similarity 91.9%;
Matches 34; Conservative
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Best Local Similarity 91.9%;
Matches 34; Conservative
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                    40/3; 149/3
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Mol. Endocrinol. (1989) 3:1823-1829
Purification and primary structure of pro-aldosterone
secretion inhibitory factor from bovine adrenal chromaffin
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                                                                                         Gaps
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#formal_name Rana ridibunda #common_name laughing frog
01-bec-1989 #sequence_revision 01-bec-1989 #text_change
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atrial natriuretic factor - laughing frog (fragment)
#length 145 #molecular-weight 15934 #checksum 1892
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Budocrinology (1989) 124:1591-1593
Aldosterone secretion inhibitory factor: a novel in boving chromaffin cells.
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Lazure, C.; Ong, H.; McNicoll, N.; Netchitailo,
M.; de Lean, A.; Vaudry, H.
FEBS Lett. (1988) 238:300-306
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from Fig. 3 in lacking residues 3-6
#superfamily natriuretic peptide A precursor
#length 30 #checksum 4650
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                                                                                                                                      109 LRELLNAPRSMRRSSDCFGSRIDRIGAQSGMGCGR-RF 145
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                                            Score 199; DB 2;
Pred: No. 2.37e-26;
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                                                                                         5; Mismatches
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##residues 69-103 ##label NG2
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##residues 1-103 ##label NGU
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##residues 1-30 ##label LAZ
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#accession S01657
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#accession A30976
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Best Local Similarity 76.7%;
Matches 23; Conservative
                                            Ouery Match 71.3%;
Best Local Similarity 71.1%;
Matches 27; Conservative
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S01657; A30977
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                                                                                     155480 #type complete hypothetical natriuretic peptide/phage fr coat protein mutant fusion protein - synthetic
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ANP; atrial natriuretic factor (ANF)
atrial natriuretic peptide-21; atrial natriuretic peptide-24
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                                                                                                                                                                                                                                                                                                                                      S.; Baumanis, V. J.; Changaro, M.; Carming, J.; Espentis, J. Biotechnol. (1993) 30:231-243
J. Biotechnol. (1993) 30:231-243
High level expression of alpha-human atrial natriuretic factor as a fusion polypeptide with phage fr coat protein in Escherichia coli.
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Biochem. Biophys. Res. Commun. (1988) 155:1338-1345
Identification of new atrial natriuretic peptides in frog
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         #formal_name Rana catesbelana #common_name bullfrog
30-Sep-1991 #sequence_revision 30-Sep-1991 #text_change
20-Mar-1998
                                                                                                                                                                              Homo sapiens (man) and phage fr genes engineered and
expressed in Escherichia coli
02-Jul-1996 #sequence_revision 05-Sep-1996 #text_change
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##residues 122-145 ##label SAK
VT In mammals, several active peptides may be derived from the
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#product atrial natriuretic peptide-24 #status
experimental #label M24\
#product atrial natriuretic peptide-21 #status
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**moleule_type DNA
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Pred. No. 3.45e-31;
1; Mismatches 0; Indels
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#disulfide_bonds #status predicted
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    1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY
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Best Local Similarity 96.6%;
Matches 28; Conservative
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Hournal Biochem Biophys. Res. Commun. (1988) 157:402-409

Hitle Isolation and identification of a high molecular weight brain natriuretic peptide in porcine cardiac atrium.
                                                                                                                                                                                                                                                                                                                                                                                          Porter, J.G.; Arfsten, A.; Palisi, T.; Scarborough, R.M.; Lewicki, J.A.; Sellhamer, J.J.
J. Biol. Chem. (1989) 264:6689-6692
Cloning of a CDNA encoding porcine brain natriuretic peptide.
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                                                                                                                                                                                                                                              A33873 *type complete
brain natriuretic peptide precursor - pig
brain natriuretic peptide precursor pig
27-feb-1990 *sequence_revision 27-Feb-1990 *text_change
29-Jan-1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #formal_name Sus scrofa domestica #common_name domestic pig
21-May-1990 #sequence_revision 21-May-1990 #text_change
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   K.; Ohkubo, H.; Nakanishi, S.; Matsuo, H.

#journal Blochem. Blophys. Res. Commun. (1988) 157:410-416

#litle Cloning and sequence analysis of cDNA encoding a precursor for porcine brain natriuretic peptide.

#cross-references MUID:89061744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  #checksum 2829
#length 103 #molecular-weight 11249 #checksum 7671
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ##residues 1-131 ##label POR ##cross-references GB:M25547; GB:M22478;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            A31517
Sudoh, T.; Minamino, N.; Kangawa, K.; Matsuo,
                                      Score 160; DB 2; Length 103
Pred. No. 1.25e-17;
7; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   brain natriuretic factor precursor - pig
brain natriuretic factor 32
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Pred. No. 5.61e-17;
10; Mismatches 5;
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                                                                                                                         67 LRAL-RGPKMMRDSGCFGRRLDRIGSLSGLGCNVLRRY 103
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##residues 26-131 ##label MIN
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                                                                                                                                                                                                                                                                                                                                                                                                                                                        #title Cloning of a cDNA
#cross-references MUID:89214071
#accession A33873
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                                        57.3%;
llarity 60.5%;
Conservative
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55.3%;
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Best Local Similarity 55.3%;
Matches 21; Conservative
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Best Local Similarity
Matches 23; Conser
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SUMMARY
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#product brain gamma natriuretic factor #status
predicted #label GAM\
Biochem. Biophys. Res. Commun. (1988) 155:726-732
Brain natriuretic peptide-32: N-terminal six amino acid
extended form of brain natriuretic peptide identified in
porcine brain.
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                                                                                                                                                                                     ij
                                                                                                                                                                      #authors Sudoh, T.; Kangawa, K.; Minamino, N.; Matsuo,
#journal Nature (1988) 332:78-81
#fille A new natrifuretic peptide in porcine brain.
#cross-references MUID:88156915
#accession $60359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 131;
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                                                                                                                                                                                                                                                                                                    106-131 ##label SU2
#Superfamily natriuretic peptide A precursor
brain; natriuretic
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                                                                                              #cross-references MUID:88339957
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Best Local Similarity 55.3%;
Matches 21; Conservative
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Search completed: Wed Jun 16 12:49:28 1999 Job time: 31 secs.

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protein - protein database search, using Smith-Waterman algorithm MPsrch_pp

Wed Jun 16 12:49:46 1999; MasPar time 3.22 Seconds 324.910 Million cell updates/sec Run on:

Tabular output not generated.

>VANDER-027-213.PEP (1-37) from vander027777.pep 279 1 LRALLTAPRSLRRSSCFGGRMDRIGAOSGLGCNSFRY 37 Description: Perfect Score:

Seguence:

PAM 150 Gap 11 Scoring table:

77977 seqs, 28268293 residues Searched:

Post-processing: Minimum Match 08 Listing first 45 summaries

swiss-prot37 1:swissprot Database:

Mean 33.663; Variance 47.480; scale 0.709 Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		æ			SUMMARIES	. •	
Result	Score	Query	Query Match Length DB	EQ.	ΙD	Description	Pred. No.
-	279	100.0	152	-	ANF_BOVIN	ATRIAL NATRIURETIC FAC	2.07e-51
7	279	100.0	153	Н	ANF_HUMAN	ATRIAL NATRIURETIC FAC	2.07e-51
m	276	98.9	149	Н	ANF_CANFA	ATRIAL NATRIURETIC FAC	1.36e-50
4	276	98.9	150	-	ANF_PIG	ATRIAL NATRIURETIC FAC	1.36e-50
S	276	98.9	153	٦	ANF_HORSE	ATRIAL NATRIURETIC FAC	1.36e-50
9	270	96.8	153	٦	ANF_RABIT	ATRIAL NATRIURETIC FAC	5.80e-49
7	267	95.7	128	Н	ANF_CAVPO	ATRIAL NATRIURETIC FAC	3.77e-48
ω	264	94.6	152	٦	ANF_RAT	ATRIAL NATRIURETIC FAC	2.45e-47
6	264	94.6	152	٦	ANF_MOUSE	NATRIURETIC	2.45e-47
10	199	71.3	145	٦	ANF_RANCA	ATRIAL NATRIURETIC FAC	4.13e-30
11	172	61.6	30	-	ANF_RANRI	ATRIAL NATRIURETIC FAC	3.12e-23
12	160	57.3	103	~	ANFB_BOVIN	BRAIN NATRIURETIC PEPT	3.01e-20
13	157	56.3	131	٦	ANFB_PIG	BRAIN NATRIURETIC PEPT	1.65e-19
14	155	. 55.6	140	٦	ANFB_CANFA	BRAIN NATRIURETIC PEPT	5.09e-19
15	143	51.3	140	٦	ANF_CHICK	ATRIAL NATRIURETIC FAC	4.08e-16
16	131	.47.0	36	Н	ANFV_ANGJA	VENTRICULAR NATRIURETI	2.79e-13
17	129	46.2	134	٦	ANFB_HUMAN	BRAIN NATRIURETIC PEPT	8.16e-13
18	124	44.4		-	ANF_ANGJA	ATRIAL NATRIURETIC FAC	1.16e-11
19	118	42.3	-	٦	ANFB_RAT	BRAIN NATRIURETIC PEPT	2.67e-10
20	114	40.9	22	٦	ANFC_CHICK	C-TYPE NATRIURETIC PEP	2.10e-09
21	112	40.1	131	٦	ANFC_ANGJA	C-TYPE NATRIURETIC PEP	5.81e-09
22	101	38.4	115	٦	ANFC_TRISC	C-TYPE NATRIURETIC PEP	7.
23	107	38.4	115	-	ANFC_SCYCA	C-TYPE NATRIURETIC PEP	7.21e-08

7.21e-08	1.19e-07	3.20e-07	8.53e-07	1.02e-04	5.23e-02	2.77e-01	2.77e-01	9.30e-01	1.38e+00	1.38e+00	1.38e+00	1.38e+00	2.04e+00	2.04e+00	2.04e+00						
C-TYPE NATRIURETIC PEP	BRAIN NATRIURETIC PEPT	C-TYPE NATRIURETIC PEP	C-TYPE NATRIURETIC PEP	NATRIURETIC PEPTIDE (D	POLYSULFIDE REDUCTASE	TETRACYCLINE RESISTANC	EPHRIN TYPE-A RECEPTOR	SERINE/THREONINE-PROTE	CYSTEINE SYNTHASE CHLO	HYPOTHETICAL 46.5 KD P	IDURONATE 2-SULFATASE	ELONGATION FACTOR G 1	PROBABLE RNA-DIRECTED	PROBABLE RNA-DIRECTED	PROBABLE RNA-DIRECTED						
ANFC_RAT	ANFC_PIG	ANFC_SHEEP	ANFC_BOVIN	ANFC_HUMAN	ANFC_MOUSE	ANFC_SQUAC	ANFB_MOUSE	ANFD_RANCA	ANFC_RANCA	DNP_DENAN	PSRA_WOLSU	TETM_STRLI	EPA1_HUMAN	KR1_HSV11	CYSL_SPIOL	YK33_YEAST	IDS_HUMAN	EFG1_TREPA	V2A_CMVY	V2A_CMVFN	V2A_CMVK
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126	126	126	126	126	126	135	121	118	129	38	763	639	976	481	383	404	220	683	857	857	828
38.4	38.4	38.4	38.4	38.4	38.4	38.4	38.0	37.3	36.6	33.0	28.0	26.5	26.5	25.4	25.1	25.1	25.1	25.1	24.7	24.7	24.7
107	107	107	107	107	107	107	106	104	102	92	78	74	74	71	. 70	70	70	70	69	69	69
24	25	56	27	28	29	30	31	32	33	34	35	36	37	38	38	40	41	42	43	44	45

ALIGNMENTS

VANDER-027-213.PEP.rsp

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PEPTIDE
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VARIANT
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13-AUG-1987 (REL. 05, LAST SEQUENCE UPDATE)
15-DEC-1998 (REL. 37, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OTRAWA S., IMAI M., UENO A., TANAKA S., NOGUCHI T., NAKAZATO H., KANGAWA K., FUKUDA A., MATSUO H.;
"Cloning and sequence analysis of cDNA encoding a precursor for human atrial natriuretic polypeptide.";
NATURE 309:724-726(1984).
                ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
                                                                                                                                           Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDULINE; 04.29.9//.
MAKAYAMA K., OHUUBO H., HIROSE T., INAYAMA S., NAKANISHI S.;
"MRNA sequence for human cardiodilatin-atrial natriuretic factor
precursor and regulation of precursor mRNA in rat atria.";
NAFURE 310:699-701(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ZIVIN R.A., CONDRA J.H., DIXON R.A.F., SEIDAH N.G., CHRETIEN M., NEMER M., CHAMBERLAND M., DROUIN J.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDLINE; 85065766.
SEIDMAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDMAN J.G.;
"Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                         ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
PRIMATES; CATARRHINI; HOMINIDAE; HOMO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NEMER M., CHAMBERLAND M., SIROIS D., ARGENTIN S., DROUIN J. DIXON R.A.F., ZIVIN R.A., CONDRA J.H.;
"Gene structure of human cardiac hormone precursor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDLINE; 85061627.
GREENBERG B.D., BENCEN G.H., SEILHAMER J.J., LEWICKI J.A.,
                                                                                                 Length 152;
                                                                                           Score 279; DB 1; Length 152
Pred. No. 2.07e-51;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ERRINGTON H.;
SUBMITTED (MAY-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
              123 150 ATRIAL NATRIURETI
129 145
152 Aa; 16518 MW; CF200882 CRC32;
                                                                                                                                                                             114 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 150
                                                                                                                                                                                                   1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                        153
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                                                                                                                                                                                                                                                                                                                                                                                                                               (ANP) (PREPRONATRIODILATIN).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         £actor genes.";
SCIENCE 226:1206-1209(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE OF 1-151 FROM N.A. MEDLINE; 84219799.
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                                                                                             Query Match 100.0%;
Best Local Similarity 100.0%;
Matches 37; Conservative
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                factor precursor.";
NATURE 312:656-658(1984).
                                                                                                                                                                                                                                                                                                      STANDARD;
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ONE CODES FOR 2 ARG RESIDUES AT THE C-TERMINUS THAT ARE CLEAVED TO FORM THE MATURE PEPTIDE, WHILE THE OTHER ENDS IN A TERMINATION CODON IMMEDIATELY, AFTER THE LAST CODON OF THE MATURE PEPTIDE.

-!- SIMILARITY: BELGN'SS TO THE NATRIURETIC PEPTIDES FAMILY.
"Molecular cloning and characterization of DNA sequences encoding rat and human atrial natriuretic factors."; PROC. NATL. ACAD. SCI. U.S.A. 81:6325-6329(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE; 94318633.

PAIRBOTHER, W.J., MCDOWELL R.S., CUNNINGHAM B.C.;

"Solution conformation of artial natriuretic peptide variant
aselective for the type A receptor.";

BIOCHEMISTRY 33:8897-3904(1994).

- FUNCTION: ATRIAL NATRIBETIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTRACE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
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BY SIMILARITY.
                                                                                                                                                                                                                                                                                                                                                    MEDILINE; 84128019.
KANGAWA K., MATSUO H.;
"Purification and complete amino acid sequence of alpha-human atrial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -! - THE HUMAN GENOME CONTAINS 2 DIFFERENT PREPRONATRIODILATIN GENES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CARDIODILATIN-RELATED PEPTIDE (CDP)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRUCTURE BY NMR OF 124-151 MUTANT SELECTIVE FOR NPR-C RECEPTOR
                                                                                                                                                                                         MAKI M., PARMENTIER M., INAGAMI T.;
"Cloning of genomic DNA for human atrial natriuretic factor.";
BIOCHEM. BIOPHYS. RES. COMMUN. 125:797-802(1984).
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C24A68AF CRC32;
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Pred. No. 2.07e-51;
0; Mismatches 0; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                            natriuretic polypeptide (alpha-hANP).";
BIOCHEM. BIOPHYS. RES. COMMUN. 118:131-139(1984).
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PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VASOACTIVE; SIGNAL; 3D-STRUCTURE.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   16708 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Similarity 100.0%;
Matches 37; Conservative
                                                                                                                            SEQUENCE OF 1-75 FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        151
146
153
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EMBL; K02399; G178634;
PIR: A01424; AWHU.
PIR; A22693; A22693;
PIR; A32733; A32733.
PDB: 1ANP; O'-APR-95.
MIM; 108780;
                                                                                                                                                                                                                                                                                                                                SEQUENCE OF 124-151.
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130
152
153 AA;
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heart constitute an endocrine

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MEDLINE; 85124561.
FORESMANN W.G., BIRR C., CARLQUIST M., CHRISTMANN M., FINKE R.,
                                                                                                   HENSCHEN A., HOCK D., KIRCHHEIM H., KREYE V., LOTTSPEICH F., MUTT V., REINECKE M.;

"The auricular myocardiocytes of the heart constitute an endo organ. Characterization of a porcine cardiac peptide hormone, cardiodilatin-126.";
                SEQUENCE OF 25-150.
TISSUE-HEART RIGHT ATRIUM;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  01-AUG-1992
01-AUG-1992
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ANF_HORSE
P27104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DISULFID
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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01-007-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL MARRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN)
                                                                                   01-APR-1988 (REL. 07, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                    MEDLINE: 86076957.

OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO H.;

Structure of dog and rabbit precursors of atrial natriuretic

"Structure of dog and rabbit precusors of atrial natriuretic

"Structure of dog and rabbit precusors of atrial natriuretic

"POLYDPERTIGES deduced from nucleotide sequence of cloned cDNA.";

BIOCHEM. BIOPHYS. RES. COMMUN. 132:892-899(1985)

-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (AMF) IS A POTENT VASOACTIVE

SUBSTANCE SYNTHESIZED IN MAMMALIAN AND IS THONGHT TO PLAY A

KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
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TISSUE-HEART RIGHT ATRIUM;
MEDLINE; 91067478.
MAGELINE; 91067478.
MAGEDITIE; 91067478.
MAGEDITIE; 91067478.
MAGEDITIE; 91067478.
MAGEDITIE; 91067478.
MAGEDITIE; 9106778.
MAGEDITIE; 9106779.
MAGEDITIE; 9106779.
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ARTIODACTYLA; SUIFORMES; SUINA; SUIDAE; SUS.
                                                                                                                                                                                                                 EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 276; DB 1; Length 149;
Pred. No. 1.36e-50;
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                  149 AA.
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                       PRT;
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                                                              07, CREATED)
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ilarity 97.3%;
Conservative
                                                                                                                                                   (ANP) (PREPRONATRIODILATIN)
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                    STANDARD;
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149
144
                                                                                                                                                                                                 CANIS FAMILIARIS (DOG)
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Best Local Similarity
Matches 36; Conser
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          149 AA;
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                                                              01-APR-1988
             ANF_CANFA
PO7499;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQUENCE
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ANF_PIG
P24259;
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RESULT
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01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAEGERT H.J., RICHTER R., SCHMAEDING G., FORSSMANN W.G.;
SUBMITTED (MAR-1991) TO EMBL/GENBANK/DBJ DATA BANKE.
-!- FUNCTION: ATRIAL NATRIBETIC FACTOR (ANT) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
CELL TISSUE RES. 238:425-430(1984).
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMALIAN ATRIA AND IS THOUGHT TO PLAY REY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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                                                                                                                                                      -i- A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
-i- SIMILARIȚY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CARDIODILATIN-RELATED PEPTIDE (CDP) (BY SIMILARITY).
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PERISSODACIYLA; EQUIDAE; EQUUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 150;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Indels
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 276; DB 1; 1
Pred. No. 1.36e-50;
1; Mismatches 0;
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4FF67B94 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       114 LRALLAAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 150
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PIR; S13107; S13107.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                          or send an email to license@isb-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          larity 97.3%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EMBL; X54669; G1884; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       150
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PFAM; PF00212; ANP; 1. VASOACTIVE; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   123
129
150 AA;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
tes 36; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
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the European Bioinformatics Institute. There are no restrictions on its mose by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isb-sib.ch).
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01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TO PLAY A
                                                                                                                                                                                                                                                                                                                             POTENTIAL.
ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
BY SIMILARITY.
; FESDSF4A CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OIKAWA S., IMAI M., INUZUKA C., TAWARAGI Y., NAKAZATO H., MATSUO H.; "Structure of dog and rabbit precursors of atrial natriuretic polypeptides deduced from nucleotide sequence of cloned cDNA."; BIOCHEM. BIOPHYS. RES. COMMUN. 13:892-899(1985).
-i- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTÈNT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY PREY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
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A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
SIMILARITY: BELONGS TO THE NTRIURETIC PEPTIDES FAMILY.
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EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERLA;
LAGOMORPHA; LEPORIDAE; ORYCTOLAGUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 153;
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Pred. No. 5.80e-49;
1; Mismatches 0;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 276; DB 1; Pred. No. 1.36e-50; 1; Mismatches 0
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                                                                                                                                                                                                       PIR; S14873; S14873;
PROSITE: PS00263: NATRIURETIC_PEPTIDE; 1.
PFAM: PF00212; ANP; 1.
VASOACTIVE: SIGNAL.
SIGNAL
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PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
VASOACTIVE; SIGNAL.
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                                                                                                                                                                                                                                                                                                                                                                                                                       153 AA; 16825 MW;
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Best Local Similarity 97.3%;
Matches 36; Conservative
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                                                                                                                                                                                 EMBL; X58563; G1009; -.
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PO7500;
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DISULFID
SEQUENCE
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                                                                                                                                                                                                                                                                                                                                              01-AUG-1992 (REL. 23, CREATED)
01-AUG-1992 (REL. 23, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN) (FRAGMENT).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CARDIODILATIN-RELATED PEPTIDE (CDP).
ATRIAL NATRIORETIC PÉPTIDE, ALPHA (ANP).
BY SIMILARITY.
; ZC2F552D CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MAEGERT H.J., HANKE M., SCHMEDING G., TEUTEBERG K.,
SCHULZ-KNAPPE P., FORSSMANN W.G.;
SUBMITTED (MAR.1991) TO EMBL/GENBANK/DDBJ DATA BANKS.
-!- FUNCTION: ATRIAL NATRIVERIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN WAMMALIAN ATRIA AND IS THOUGHT TO PLAY
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CAVIA PORCELLUS (GUINEA PIG).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; HYSTRICOGNATHI; CAVIIDAE; CAVIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
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EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALI
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; RATTUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 267; DB 1; I
Pred. No. 3.77e-48;
1; Mismatches 1;
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115 LRALLTAPRSLRRSSCFGGRIDRIGAQSGLGCNSFRY 151
                                         1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
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LAST ANNOTATION UPDATE)
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PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
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99 126 AT
105 121 BY
128 AA; 13366 MW;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               95.78;
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Matches 35; Conservative
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                                                                                                                                                                                                                                                                        STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PFAM; PF00212; ANP; 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE FROM N.A.
TISSUE-HEART ATRIUM;
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P27596;
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SEQUENCE FROM N.A.
MEDLINE; 86038509.
ZIVIN R.A. CONDRA J.H., DIXON R.A.F., SEIDAH N.G., CHRETIEN M.,
NEMER M., CHAMBERLAND M., DROUIN J.;
"Molecular cloning and characterization of DNA sequences encoding rat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MEDLINE; 84219796.
ATLAS S.A., KLEINERT H.D., CAMARGO M.J., JANUSZEWICZ A., SEALEY J.E.,
LARAGH J.H., SCHILLING J.W., LEWICKI J.A., JOHNSON L.K., MAACK T.;
"Purification, sequencing and synthesis of natriuretic and vasoactive
rat atrial peptide.";
NATURE 309:717-719(1984).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               The elucidation of the structure of atrial natriuretic factor, a new
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GARDNER D.G., VLASUK G.P., BAXTER J.D., FIDDES J.C., LEWICKI J.A.; "Identification of atrial natriuretic factor gene transcripts in the central nervous system of the rat."; PROC. NATL. ACAD. SCI. U.S.A. 84:2175-2179(1987).
                                                                                                                                                                                                                                                                                                                                SEIDMAN C.E., DUBY A.D., CHOI E., GRAHAM R.M., HABER E., HOMCY C., SMITH J.A., SEIDMAN J.G.,
"The structure of rat preproatrial natriuretic factor as defined by complementary DNA clone.";
SCIENCE 225:324-326(1984).
                                                                                                                                                                                                   NAGAMI T.; Structure of rat atrial natriuretic factor precursor deduced from
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                                                                                                                                                                                  TAKAYANAGI R., MISONO K.S., PANDEY K.N., TIBBETTS C.,
                 BREWER
                                                                   "Cloning and sequence analysis of the CDNA for the rat atrial natriuretic factor precursor.";
NATURE 309:719-722(1984).
             AMANAKA M., GREENBERG B., JOHNSON L., SEILHAMER J.J., BREWEI
RIEDEMANN T., MILLER J., ATLAS S.A., LARAGH J., LEWICKI J.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQUENCE OF 127-149, AND SYNTHESIS.

WEDLINE; 84097513.

CURRIE M.G., GELLER D.M., COLE B.R., SIEGEL N.R., FOK K.F.,

ADAMS S.P., EUBANKS S.R., GALLUPPI G.R., NEEDLEMAN P.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQUENCE FROM N.A.
BEDINE: 8518258.
ARCENTIS: 8., NEMER M., DROUIN J., SCOTT G.K., KENNEDY B.P.,
DAVIES P.L.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      and human atrial natriuretic factors.";
PROC. NATL. ACAD. SCI. U.S.A. 81:6325-6329(1984).
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CAN. J. PHYSIOL. PHARMACOL. 65:2013-2020(1987).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  The gene for rat atrial natriuretic factor.";
T. BIOL. CHEM. 260:4568-4571(1985).
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SEQUENCE OF 38-152 FROM N.A.
MEDLINE; 87175636.
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84219798.
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13-AUG-1987 (REL. 05, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
(ANP) (PREPRONATRIODILATIN).
MIPPA OR PUD.
                                                                                     SEIDAH N.G., LAZURE C., CHRETIEN M., THIBAULT G., GARCIA R., CANTIN M., GENEST J., NUTT R.F., BRADY S.F., LYLE T.A., PALEVEDA W.J., COLTON C.D., CICCARONE T.M., VEBER D.F.;
"Amino acid sequence of homologous rat atrial peptides: natriuretic
                                                                                                                                                                                                                                                                                                       FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY REY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
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    -!- A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS.
    -!- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.

                                                                                                                                                                                                                                                            "NH2-termina" fragment of rat pro-atrial natriuretic factor in the circulation: identification, radioimmunoassay and half-life."; PEPTIDES 9:47-53(1988).
Purification and sequence analysis of bioactive atrial peptides
                                                                                                                                                                                                                MEDLINE; 88203350.
THIBAULT G., MURTHY K.K., GUTKOWSKA J., SEIDAH N.G., LAZURE C.,
CHRETIEN M., CANTIN M.;
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                                                                                                                                  "Amino acid sequence of homologous rat atrial pep
activity of mative and synthetic forms.";
PROC. NATL. ACAD. SCI. U.S.A. 81:2640-2644(1984).
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ATRIOPEPTIN I.
ATRIOPEPTIN II.
ATRIOPEPTIN III.
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PFAM; PF00212; ANP; 1.
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larity 91.9%;
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               (atriopeptins).";
SCIENCE 223:67-69(1984).
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152 AA;
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141
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Best Local Similarity '27; Conserv
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PIR; JQ0947; JQ0947.
PROSITE; PS00263; NA
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125
145 AA;
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P13204;
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P09196;
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01-MAR-1992 (REL. 21, LAST SEQUENCE UPDATE)
01-FEB-1995 (REL. 31, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
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EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; AMPHIBIA; BATRACHIA; ANURA;
NEOBATRACHIA; RANOIDEA; RANIDAE; RANINAE; RANA.
                                                                                                                                            factor genes.";
SCIENCE 226:1206-1209(1984).
-!- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIVE
SUBSTANCE SYNTHESIZED IN WAMMALTAN ATRIA AND IS THOUGHT TO PLAY R
KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
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"Identification of new atrial natiuretic peptides in frog heart.";
BICCHEM. BIOPHYS. RES. COMMUN. 155:1338-1345(1988).
-I- FUNCTION: VASOACTIVE ACTIVITY. HAS A CGMP-SIMULATING ACTIVITY.
-I- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                   A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRIOPEPTINS. SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                     SEIDWAN C.E., BLOCH K.D., KLEIN K.A., SMITH J.A., SEIDWAN J.G.;
"Nucleotide sequences of the human and mouse atrial natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ö
EUKARYOTA; META2OA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RODENTIA; SCIUROGNATHI; MURIDAE; MURINAE; MUS.
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AURICULIN B (BY SIMILARITY).
ATRIOPEPTIN I (BY SIMILARITY).
ATRIOPEPTIN II (BY SIMILARITY)
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SUBMITTED (XXX-1992) TO EMBL/GENBANK/DDBJ DATA BANKS
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3; Mismatches 0
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PFAM; PF00212; ANP; 1.
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MGD; MGI:97367; NPPA.
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les 34; Conser
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ANF_RANCA
P18909;
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01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
01-MAR-1989 (REL. 31, LAST ANNOTATION UPDATE)
ATRIAL NATRIURETIC FACTOR (ANF) (ATRIAL NATRIURETIC PEPTIDE) (ANP).
RANA RIDIBUNDA (LAGGHING FROG) (MARRIER FROG).
EUKARYOTA: METAGOA: CHODATA: VERTEBRATA: AMPHIBIA: BATRACHIA: ANURA;
NEOBATRACHIA: RANOIDEA: RANIDAE: RANINAE; RANA.
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PERS LETT. 238:300-30(6(1988).
-!- FUNCTION: VASOACTIVE ACTIVITY. HAS A CGMP-STIMULATING ACTIVITY.
-!- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PPRAM; PF00212; ANP: 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                01-57N-1990 (REL. 13, CREATED)
01-DEC-1992 (REL. 24, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
BRAIN NATRIURETIC PEFTIDE PRECURSOR (BNP) (ALDOSTERONE SECRETION INHIBITORY FACTOR) (ASIF).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ä
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TISSUE-HEART ATRIUM:
MEDLINE; 89005705.
LAZURE C., ONG H., MCNICOLL N., NETCHITAILO P., CHRETIEN M.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 145;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
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                                                                                                                                                                                                                                                                                                                                                                                 ATRIAL NATRIURETIC FACTOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Score 172; DB 1; Le
Pred. No. 3.12e-23;
4; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Score 199; DB 1; Pred. No. 4.13e-30;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                109 LRELLNAPRSMRRSSDCFGSRIDRIGAQSGMGCGR-RF 145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1 LRALLTAPRSLRRSS-CFGGRWDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                                                                                                                                                     15934 MW; 6A1FA352 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               30 AA; 3263 MW; 14A325F7 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              5; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    103 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             30 AA
                                                                                                                                                                                                                                                                           PS00263; NATRIURETIC_PEPTIDE;
                                                                                                                                                                                                                                                                                                                                                           POTENTIAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1 APRSMRRSSDCFGSRIDRIGAQSGMGCGRF 30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7 APRSLRRSS-CFGGRWDRIGAQSGLGCNSF 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       71.3%;
llarity 71.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 61.68;
76.78;
                                                                                                                                                                                                EMBL; D01043; D1001314; -.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Local Similarity 76.7%;
Matches 23; Conservative
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MEDULINE; 083,3937.
SUDOH T., MINAMINO N., KANGAWA K., MATSUO H.;
SUDOH T., MINAMINO N., KANGAWA K., MATSUO H.;
"Brain natrilyretic peptide-32: N-terminal six amino acid extended
form of brain natrilyretic peptide identified in porcine brain.";
BIOCHEM. BIOPHYS. RES. COMMUN. 155:726-732(1988).
BIOPHYS. RES. COMMUN. 157:402-409(1988).
                                                                                                                                                      SUBOH T., KANGAWA K., MINAMINO N., MATSUO H.; "A new natriuretic peptide in porcine brain."; NATURE 332:78-81(1988).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       BRAIN; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M25547; G164393; -..
PIR; A31675; A31675.
PIR; A31676; A31676.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EMBL; M23596; G535705; -.
                            OF 100-131.
                                                                                                                              SEQUENCE OF 106-131.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                A31517; A31517
A33873; A33873
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             806359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          131 AA;
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                                                                                                                                               88156915.
                                                                                                                                                                                                                                                                                                                                                      MEDLINE; 92007873.
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100
106
109
26
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VASOACTIVE; BR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    .21;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PIR; S06359;
PROSITE; PSC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ANFB_CANFA
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                            SEQUENCE
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MEDILINE: 89061744.
MARKAWA K., SUDOH T., FURUSAWA M., MINAMINO N., KANGAWA K., OKHUBO H.,
NAKANISHI S., MATSUO H.:
                                                                                      Ξ.
                                                                                                                                                                                        NGUYEN T.T., LAZURE C., BABINSKI K., CHRETIEN M., ONG H., DE LEAN A.; "Aldosterone secretion inhibitory factor: a novel neuropeptide in
                                                                                                                                                                                                                                                                                                                                                                                GAMMA-BRAIN NATRIURETIC PEPTIDE.
ALDOSTERONE SECRETION INHIBITORY FACTOR.
BRAIN NATRIURETIC PEPTIDE (BNP-26).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                NGUYEN T.T., LAZURE C., BABINSKI K., CHRETIEN M., DE LEAN A., ONG "Purification and primary structure of pro-aldosterone secretion inhibitory factor from bovine adrenal chromaffin cells."; MOL. ENDOCRINOL. 3:1823-1829(1989).
             EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; RUMINANTIA; PECORA; BOYOIDEA; BOVIDAE; BOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PORTER J.G., ARESTEN A., PALISI T., SCARBOROUGH R.M., LEWICKI J.A., SELLHAMER J.J.; "Cloning of a CDNA encoding porcine brain natriuretic peptide."; J. BIOL. CHEM. 264:6689-6692(1989).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            for
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    "Isolation and identification of a high molecular weight brain natriuretic peptide in porcine cardiac atrium.";
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
RRIODACTXLA; SUIFORMES; SUINA; SUIDAE; SUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     "Cloning and sequence analysis of cDNA encoding a precursor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 103;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 160; DB 1; Le
Pred. No. 3.01e-20;
7; Mismatches 6;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         porcine brain natriuretic peptide.";
BIOCHEM. BIOPHYS. RES. COMMUN. 157:410-416(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 67 LRAL-RGPKMMRDSGCFGRRLDRIGSLSGLGCNVLRRY 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              78 103 BRAIN NATRIURETIC
81 97
103 AA; 11249 MW; E3823460 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-APR-1988 (REL. 07, CREATED)
01-MAR-1989 (REL. 10, LAST SEQUENCE UPDATE)
01-CT-1996 (REL. 34, LAST ANNOTATION UPDATE)
BRAIN NATRIURETIC PEPTIDE PRECURSOR (BNP).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       131 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDLINE; 89061743.
MINAMINO N., KANGAWA K., MATSUO H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       57.3%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STANDARD;
                                                                                                                                                                                                                                                                                                                                                   PFAM; PF00212; ANP; 1. VASOACTIVE; BRAIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQUENCE OF 26-131.
                                                                                                                                                           OF 69-103.
89136947.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Local Similarity
ses 23; Conser
                                                      SEQUENCE.
MEDLINE: 90114187.
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                                                                                                                                                            SEQUENCE OF
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
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Matches
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STRUCTURE BY NMR OF BNP-26.
MEDLINE, 91031435.
INOORA H., KIKUCHI T., ENDO S., ISHIBASHI Y., WAKIMASU M., MIZUTA E.;
"Conformation in solution of porcine brain natriuretic peptide
determined by combined use of nuclear magnetic resonance and distance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                              CRAIK D., MUNCO S., NIELSEN K., SHEHAN P., TREGEAR G., WADE J.;
"The conformation of porcine-brain natriuretic peptide by two-
dimensional NMR spectroscopy.";
eur. J. BICCHEM. 201:183-191(1991).
-!- FUNCTION: VASOACTIVE ACTIVITY.
-!- TISSUE SPECIFICITY: BRAIN AND ALSO IN ATRIA, BUT AT MUCH LOWER
LEVELS THAN ANP.
-!- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GAMMA-BRAIN NATRIURETIC PEPTIDE.
BRAIN NATRIURETIC PEPTIDE (BNP-32)
BRAIN NATRIURETIC PEPTIDE (BNP-26)
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7
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14512 MW; 17699327 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 157; DB 1;
Pred. No. 1.65e-19;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       95 LRGI-RSPKTMRDSGCFGRRLDRIGSLSGLGCNVLRRY 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFR-Y 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ę
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                                                                                                                                                                            geometry.";
EUR. J. BIOCHEM. 193:127-134(1990).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P16859;
01-AUG-1990 (REL. 15, CREATED)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          56.3%;
                                                                                                                                                                                                                                                                       STRUCTURE BY NMR OF BNP-26.
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PAC COC COC COLOR REPORT OF THE SERVICE OF THE SERV

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'Identification of a 29-amino acid natriuretic peptide in chicken
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Job time : 21 secs.
                                                                                                                                                                                                                                                                                                                                                     DISULFID
                                                                                                                                                                                                                                                                                     PROSITE;
                                                                                                                                                                                                                                                                                                                                            PEPTIDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATRIAL NATRIURETIC FACTOR PRECURSOR (ANF) (ATRIAL NATRIURETIC PEPTIDE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                      peptide.";
BIOCHEM. BIOPHYS. RES. COMMUN. 165:650-658(1989).
-!- FUNCTION: VASOACTIVE ACTIVITY.
-!- TISSUE SPECIFICITY: BRAIN AND ALSO IN ATRIA, BUT AT MUCH LOWER LEVELS THAN ANP.
                                                                                                                                                                                                                                                                                                                                                                                                                                                          GAMMA BRAIN NATRIURETIC PEPTIDE.
BRAIN NATRIURETIC PEPTIDE (BNP-34)
BRAIN NATRIURETIC PEPTIDE (BNP-29)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ;;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MEDLINE; 91192169.

AKIZUKI N., KANGAWA K., MINAMINO N., MATSUO H.;

"Cloning and sequence analysis of complementary DNA encoding precursor for chicken natriuretic peptide.";
                                                                EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
CARNIVORA; FISSIPEDIA; CANIDAE; CANIS.
                                                                                                                                SEILHAMER J.J., ARESTEN A., MILLER J.A., LUNDQUIST P., SCARBOROUGH R.M., LEWICKI J.A., PORTER J.G., "Human and canine gene homologs of porcine brain natriuretic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; ARCHOSAURIA; AVES;
NEOGNATHAE; GALLIFORMES; PHASIANIDAE; PHASIANINAE; GALLUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 140;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             104 LRRL-RSPKMMHKSGCFGRRLDRIGSLSGLGCNVLRKY 140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Pred. No. 5.09e-19;
9; Mismatches 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SIMILARITY.
DCEBCC52 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MIYATA A., MINAMINO N., KANGAWA K., MATSUO H.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   01-NOV-1990 (REL. 16, CREATED)
01-MAR-1992 (REL. 21, LAST SEQUENCE UPDATE)
01-OCT-1996 (REL. 34, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           140 AA
01-AUG-1990 (REL. 15, LAST SEQUENCE UPDAT
01-OCT-1996 (REL. 34, LAST ANNOTATION UPD
BRAIN NATRIURETIC PEPTIDE PRECURSOR (BNP)
                                                                                                                                                                                                                                                                                                                                                                                                      PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
PFAM; PF00212; ANP; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 155;
                                                                                                                                                                                                                                                                                                                                                                                                                                                POTENTIAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               14966 MW;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EBS LETT. 280:357-362(1991)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         55.6%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (ANP) (PREPRONATRIODILATIN)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local Similarity 55.3%;
nes 21; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                  VASOACTIVE; BRAIN; SIGNAL.
                                                                                                                                                                                                                                                                                                                                                                            EMBL; M31777; G163913; -. PIR; B36736; B36736.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STANDARD;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GALLUS GALLUS (CHICKEN)
                                                     CANIS FAMILIARIS (DOG)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               140 AA;
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                                                                                                       SEQUENCE FROM N.A.
                                                                                                                      MEDLINE; 90088474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                MEDLINE; 89025805
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LT 15
ANF_CHICK
P18908;
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PEPTIDE
DISULFID
SEQUENCE
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This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/or send an email to license@isp-sib.ch).
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATRIAL NATRIURETIC PEPTIDE, ALPHA (ANP).
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                                                                                                                                                                                                OF ATRIOPEPTINS.
                                                           -i- FUNCTION: ATRIAL NATRIURETIC FACTOR (ANF) IS A POTENT VASOACTIV SUBSTANCE SYNTHESIZED IN MAMMALIAN ATRIA AND IS THOUGHT TO PLAY KEY ROLE IN CARDIOVASCULAR HOMEOSTASIS. HAS A CGMP-STIMULATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ä
                                                                                                                                                                                         -!- A DISULFIDE BOND IS REQUIRED FOR FULL ACTIVITY OF ATRI-
-!- SIMILARITY: BELONGS TO THE NATRIURETIC PEPTIDES FAMILY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 140
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                               RES. COMMUN. 155:1330-1337(1988)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 143; DB 1; Le
Pred. No. 4.08e-16;
8; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             140 AA; 15714 MW; E0A8F52F CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    104 LRGVQM-PRMMRDSGCFGRRIDRIGSLSGMGCNGSR 138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFR 36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PS00263; NATRIURETIC_PEPTIDE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search completed: Wed Jun 16 12:50:07 1999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EMBL; X57702; -; NOT_ANNOTATED_CDS.
PIR; S14320; S14320.
PIR; A31509; A31509.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity 55.6%;
Matches 20; Conservative
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heart.";
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Release 3.1A John F. Collins, Biocomputing Research Unit. Copyright (c) 1993-1998 University of Edinburgh, U.K. Distribution rights by Oxford Molecular Ltd

MasPar time 6.96 Seconds 290.262 Million cell updates/sec Wed Jun 16 12:50:24 1999; Run on:

protein - protein database search, using Smith-Waterman algorithm

MPsrch_pp

Tabular output not generated.

1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37 >VANDER-027-213.PEP (1-37) from vander027777.pep 279 Title: Description:. Perfect Score: Sequence:

179066 seqs, 54579741 residues PAM 150 Gap 11 Scoring table: Searched:

Minimum Match 0% Listing first 45 summaries. Post-processing:

1:sp_archea 2:sp_bacteria 3:sp_fung1 4:sp_human 5:sp_invertebrate 6:sp_mamma1 7:sp_mhc 8:sp_organelle 9:sp_phage 10:sp_plant 11:sp_rodent 12:sp_unclassified 13:sp_vertebrate 14:sp_virus sptremb19 Database:

Variance 46.907; scale 0.691 Mean 32.418; Statistics:

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

		*P					
Result No.	Score	Query Match	Query Match Length DB	DB	ΩI	Description	Pred. No.
-	279	100.0	151	4	013766	ATRIAL NATRIURETIC FAC	1.69e-50
7	279	100.0	152	9	046540	ATRIAL NATRIURETIC PEP	1.69e-50
m	272	97.5	155	9	029130	CARDIODILATIN, ATRIAL	1.24e-48
4	152	54.5	129	9	046541	BRAIN NATRIURETIC PEPT	5.58e-18
S	106	38.0	121	11	055086	BRAIN NATRIURETIC PEPT	1.79e-07
9	96	34.4	139	13	P79799	NATRIURETIC PEPTIDE.	2.24e-05
7	85	30.5	298	ព	082599	F1104.13 PROTEIN.	3.52e-03
ω	80	28.7	187	ч	029736	HYPOTHETICAL 21.2 KD P	3.15e-02
σ	7.8	28.0	334	-	026948	GLUCOSAMINE FRUCTOSE -	7.40e-02
10	77	27.6	2025	S	062191	F31C3.3 PROTEIN.	1.13e-01
11	74	26.5	461	Ξ	035947	NEUREGULIN.	3.93e-01
12	74	26.5	1095	7	055527	CHEMOTAXIS PROTEIN CHE	3.93e-01
13	72	25.8	410	~	052437	FERREDOXIN REDUCTASE.	8.88e-01
14	72	25.8	2297	~	054155	POLYKETIDE SYNTHASE.	8.88e-01
15	71	25.4	232	٦	026659	CONSERVED PROTEIN.	1.33e+00
16	71	25.4	419	14	083025	UNKNOWN (FRAGMENT).	1.33e+00
17	71	25.4	511	S	P90876	F46F3.2.	1.33e+00
18	71	25.4	1186	2	017786	C07E3.3 PROTEIN.	1.33e+00
19	71	25.4	2206	14	083017	POLYPROTEIN 1A.	1.33e+00
20	70	25.1	143	14	098255	MC088R.	1.97e+00

1.97e+00 1.97e+00 1.97e+00 1.97e+00	1.97e+00 1.97e+00 1.97e+00 2.93e+00	2.93e+00 2.93e+00 2.93e+00	2.93e+00 4.32e+00 4.32e+00 4.32e+00	4.32e+00 4.32e+00 4.32e+00 4.32e+00	4.32e+00 6.35e+00 6.35e+00 6.35e+00
IDURONATE-2-SULFATASE. COSMID FO8F8. IDURONATE-2-SULPHATASE COSMID F08F8.	O-ACETYLSERINE-(THIOL) C16A3.2 PROTEIN. ORF1, ORF2, AND ORF3. PHYTOCHOME (FREMENT)	KELINOL ACID RECEION KIAA039G (FRAGMENT). ENDO-GLUCANASE. 2A PROTEIN. CMV-SD 2A.	HE C.	HYPOTHETICAL 46.0 KD P HYPOTHETICAL 46.0 KD P PHOSPHOMANNOWUTASE. ALPHA ESTERASE.	ETS HOMOLOGUE. PVI PROTEIN (FRAGMENT) UNKNOWN PRODUCT. TAR DNA-BINDING PROTEI
060597 Q19208 Q14604 Q19209	Q33137 Q18038 Q69340 Q09236	043146 052747 083261 066144	001526 Q83011 066168 Q54085	Q65569 Q06634 Q51847 Q24197	Q26645 Q64828 Q52960 Q13148
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179 281 343 352	390 1810 1958 192	601 680 857 858	1121 64 211 251	339 433 470 541	559 45 307 414
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151	ED) SEQUENCE UPDATE)	TATOL	RATA				SMS	SEIDMAN J.G.	natriuretic factor)E; 1				JILAT	CTATT ABILITY	DA3	.6	No. 1.69e-50;	SMatc	CNSF	CNSF	,	152	_	SEQUENCE UPDATE	ANNOTATION UPDATE)
PRT;	CREATED) LAST SEC	LAST ANNOTATION UPDATE) RECURSOR.	FRTE				ZISFEIN J., SMIT J					EPTIL				CARDIODILATIN-RELATED PEPTIDE (CDP)			Score 279;	Pred. No	U; Mismatches	OSGLG	OSGE		PRT;	CREATED)	T SE	H AN
Д		PRECU	. A				ZISFE	GRAHAM R.M.,	atria		CED	LIC	ì			5	A P	MW;		Δ,	ò	DRIGA	DRIGA			_		, LAST
χ;		. 09, TOR PI	, ACRO	HOM			D.,	AHAM	the	980)	101	IURE						381	. 08;	100.0%;	1.ve	GGRM	GGRM		: <u>;</u>	, 06,		TIDE.
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PRELIMINARY;	(TREMBLREL.)	01-JAN-1999 (TREMBLREL. 09, LAST ANN ATRIAL NATRIURETIC FACTOR PRECURSOR.	HOMO SAPIENS (HUMAN). FIIXABYOTA: MEGAZOA: CHORDATA: VERTERRATA: MAMMALIA:	CATARRHINI; HOMINIDAE; HOMO.		SEQUENCE FROM N.A.	SEIDMAN C.E., BLOCH K.D.,	DUBY A.D., CHOI E.,	studies of the atrial			PROSITE: PS00263; NATRIURETIC PEPTIDE;	PFAM; PF00212; ANP;	SIGNAL	ч	92	47.T	151 AA;		Similarity	Conservative	LRALLTAPRSLRRSSCFGGRMDRIGAOSGLGCNSFRY	LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY		PRELIMINARY;	(TREMBLREL.	(TREMBLREL.	01-AUG-1998 (TREMBLREL, 07 ATRIAL NATRIURETIC PEPTIDE
щ		999 (ATRIU	IENS A. MI	N.		FROF	C.E.	:	ar st	A 947	4951	PSOC	00212	VE;				-		Simi]	3/;	LLTAB	LLTA					ATRIC
1.00	013766; 01-NOV-1996 01-NOV-1996	01-JAN-1999 ATRIAL NATRI	SAP	ARRHI		SEQUENCE	MAN	A.D	"Molecular	EMPLY M54947	X X	SITE	4; PF	VASOACTIVE;	MAL	PEPTIDE	PEPTIUE PIENTEIN	SEQUENCE	Match	ocal			LRA	7	540	01-JUN-1998	JUN-1	01-AUG-1998 ATRIAL NATR
LT 1. 013766	01-10	O1-	HOM	CAT	[]	SEO	SEII	DUB	W	H Y P	EMBI.	PRO	PFA	VAS	SIGNAL	PEP.	7 5	SEO	Ouery Match	Best Local	Matches	115	••	17	046540	015	01-	OI-
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EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA;
SCIUROGNATHI; MURIDAE; MURINAE; MUS.
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TISSUE=VENOM GLAND;
MEDLINE; 98092299.
HO P.L., SOARES M.B., MAACK T., GIMENEZ I., PUORTO G., FURTADO M.F.D.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TAMURA N., OGAWA Y., YASODA A., NAKAO K.;
"Two cardiac natriuretic peptide genes (atrial natriuretic peptide and brain natriuretic peptide) are organized in tandem in the mouse and human genomes.";
                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            01-MAY-1997 (TREMBLREL. 03, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
NATRIURETIC PEPTIDE.
NATRURETIC SECULING.
EUKARYOTA; METAZOA; CHÜRDATA; VERTEBRATA; LEPIDOSAURIA; SQUAMATA;
SCLEROGLOSSA; SERPENTES; COLUBROIDEA; ELAPIDAE; ELAPINAE; MICRURUS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OGAWA Y., ITOH H., TAMURA N., SUGA S., YOSHIMASA T., UEHIRA M., MATSUDA S., SHIONO S., NISHIMOTO H., NAKAO K.;
"Molecular cloning of the complementary DNA and gene that encode mouse brain natriuretic peptide and generation of transgenic mice that overexpress the brain natriuretic peptide gene.";
J. CLIN. INVEST. 93:1911-1921(1994).
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Pred. No. 1.79e-07;
6; Mismatches 3; Indels
                                 Length 129
                          Score 152; DB 6; Length 125
Pred. No. 5.58e-18;
8; Mismatches 6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                        CREATED)
LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
                                                                                                                                                              93 LOAL-RGPKMMRDSGCFGRRLDRIGSLSGLGCNVLRRY 129
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D82049; D1025069; -.
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TISSUE-VENOM GLAND;
HO P.L., SOARES M.B., YAMANE T., RAW I.;
J. TOXICOL. TOXIN. REV. 14:327-337(1995)
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Local Similarity 60.9%;
hes 14; Conservative
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                          Query Match
Best Local Similarity 57.9%;
Matches 22; Conservative
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01-JUN-1998 (
01-NOV-1998 (
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P79799
P79799;
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055086
055086;
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                    OVIS ARIES (SHEEP).
EUKARYOTA; METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  OVIS ARIES (SHEEP).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA;
ARTIODACTYLA; RUMINANTIA; PECORA; BOVOIDEA; BOVIDAE; CAPRINAE; OVIS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
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EMBL. AF037466; G2708652;
PROSITE: PS00363; NATUGHTIC_PEPTIDE: 1.
SEQUENCE 129 AA; 14118 MW; 85DE4222 CRC32;
                                                                                                                                             SEQUENCE FROM N.A.
AITKEN G.D., RAILS A.M., GEORGE P.M., ESPINER E.A., CAMERON V.A.,
SUBMITTED (DEC-1970) TO EMBL/GENBANK/DDBJ DATA BANKS.
EMBL, AF031465; G2708650; -
EMBL, AF031465; G2708650; -
PROSITE; PS00265; NATRIURETIC_PEPTIDE; 1
SEQUENCE 152 AA; 16368 MW; D5360BCC CRC32;
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                                                                                                                                                                                                                                                                                                                                                                                   Length 152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 155;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SCHNEIDEMANN S., MAEGERT H.J., FORSSMANN W.G.;
SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DAIA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SUBMITTED (MAR-1996) TO EMBL/GENBANK/DDBJ DATA BANKS EMBL; Z70294; E233859; - PROSITE; PS00263; NATRIURETIC_PEPTIDE; 1.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      01-NOV-1996 (TREMBLREL. 01, CREATED)
01-NOV-1996 (TREMBLREL. 01, LAST SEQUENCE UPDATE)
01-NOV-1998 (TREMBLREL. 08, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         046541 PRELIMINARY; PRT; 129 AA.
046541 046541
01-JUN-1998 (TREMBLREL. 06, CREATED)
01-JUN-1998 (TREMBLREL. 06, LAST SEQUENCE UPDATE)
01-AGG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
BRAIN NATRIURETIC PEPTIDE.
                                                                                                                                                                                                                                                                                                                                                                               Query Match
100.0%; Score 279; DB 6; Le
Best Local Similarity 100.0%; Pred. No. 1.69e-50;
Matches 37; Conservative 0; Mismatches 0;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 272; DB 6; Pred. No. 1.24e-48; 2; Mismatches 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                114 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 150
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PFAM: PF00112; ANP; 1.
SEQUENCE 155 AA; 16860 MW; 77E8CA8B CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             117 LRAMLAAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 153
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1 LRALLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSFRY 37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                155 AA
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local Similarity 94.6%;
Matches 35; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PRELIMINARY;
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ID 029130
AC 029130;
SORRERES
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MEDLINE; 98037514
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                                                                                                                      VENTER J.C.;
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062191
062191;
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026948
026948;
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                                                                                                                                                                                                                                                                                        ARABIDOPSIS THALIANA (MOUSE-EAR CRESS).
EUKARYOTA; VIRIDIPLANTAE; STREPTOPHYTA; EMBRYOPHYTA; TRACHEOPHYTA;
EUPHYLLOPHYTES; SPERKATOPHYTA; MAGNOLIOPHYTA; EUDICOTYLEDONS; ROSIDAE;
CAPPRALES; BRASSICACEAE; ARABIDOPSIS.
                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
         "Cloning of an unusual natriuretic peptide from the South American coral snake Micrurus corallinus.";
EUR. J. BIOCHEM. 250.14149(1997).
EMBL: U77596; G1684874;
EMBL: V77596; NATRIURETIC_PEPTIDE; 1.
PPAM: PF00212; ANP; 1.
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ARCHAEA; EURYARCHAEOTA; ARCHAEOGLOBALES; ARCHAEOGLOBACEAE;
                                                                                                                                                                                                                                                                                                                                                                                                               SEQUENCE FROM N.A.
STAIN-CV. COLUMBING T., LANGSTON Y., TREVASKIS E.;
ABU-THREIDEH J., STONEKING T., LANGSTON Y., TREVASKIS E.;
The sequence of A. thaliana F1104.";
SUBMITTED (OCT-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 298;
                                                                                                Score 96; DB 13; Length 139;
Pred. No. 2.24e-05;
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                                                                                                                      6; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STRAIN-CV. COLUMBIA;
WATERSTON R.;
SUBMITTED (OCT-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                "The A. thaliana Genome Sequencing Project.";
SUBMITTED (OCT-1998) TO EMBL/GENBANK/DDBJ DATA BANKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 01-JAN-1998 (TREMBLREL. 05, CREATED)
01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                    08, CREATED)
08, LAST SEQUENCE UPDATE)
08, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ouery Match 30.5%; Score 85; DB 10; Le:
Best Local Similarity 35.5%; Pred. No. 3.52e-03;
Matches 11; Conservative 11; Mismatches 7;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EMBL; AF096370; G3695384; -.
SEQUENCE 298 AA; 33450 MW; 61E11354 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             187 AA.
                                                                                                                      3; Mismatches
                                                                                                                                                                                                              298 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           135 LRSLM-PPSFLQRVTKCFKGSLNKNGDQASI 164
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STRAIN-VC-16 / DSM 4304 / ATCC 49558;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRT;
                                                                                                                                                                                                              PRT;
                                                                                                                                            85 GCFGQRIDRICNVSGMGCNHVR 106
                                                                                                                                                        01-JAN-1998 (TREMBLREL. 05, L.
01-AUG-1998 (TREMBLREL. 07, L.
HYPOTHETICAL 21.2 KD PROTEIN.
                                                                                                 34.4%;
59.1%;
                                                                                                 Query Match 34.4%;
Best Local Similarity 59.1%;
Matches 13; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRELIMINARY;
                                                                                                                                                                                                              PRELIMINARY;
                                                                                                                                                                                                                                  01-NOV-1998 (TREMBLREL.
01-NOV-1998 (TREMBLREL.
01-NOV-1998 (TREMBLREL.
FILO4.13 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                           STRAIN-CV. COLUMBIA;
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                                                                                                                                                                                                                                                                                                                                                SEQUENCE FROM
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029736;
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082599
082599;
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KLENK H.-P., CLAYTON R.A., TOMB J.-F., WHITE O., NELSON K.E.,
KETCHUM K.A., DODSON R.J., GWINN M., HICKEY E.K., PETERSON J.D.,
RICHARDSON D.L., KERLAYNGE A.R., GRAHAM D.E., KYRPIDES N.C.,
FLEISCHMANN R.D., QUACKENBUSH J., LEE N.H., SUTTON G.G., GILL S.,
KIRKNESS E.F., DOUGHERTY B.A., MCKENNEY K., ADAMS M.D., LOFTUS B.,
PETERSON S., REICH C.I., MCNEIL L.K., BADGER J.H., GLODER A., ZHOU JOVERBEEK R., GOZANDE J.D., WEIDMAN J.F., MCDONALD L., UTTERBACK T.,
SADOW P.W., D'ANDREA K.P., BOWMAN C., FUJII C., GARLAND S.A.,
MASON T.W., OLSEN G.J., FRASER C.M., SMITH H.O., WOESE C.R.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ALDREDGE T., BASHIRZADER R., BLAKELY D., COOK R., GILBERT K.,
HARRISON D., HOANG L., KEAGLE P., LUMM W., POTHIER B., QIU D.,
SPADAPORA R., VICARE R., WANG Y., WIERZBOWSKI J., GIBSON R.,
JIWANI N., CARUSO A., BUSH D., SAFER H., PATWELL D., PRABHAKAR S.,
MCDOUGALL S., SHIMER G., GOYAL A., PIETROVSKI S., CHURCH G.M.,
DANIELS C.J., MAO J.-I., R.CE P., NOLLING J., REEVE J.N.;
"Complete genome sequence of Methanobacterium thermoautotrophicum
deltah: functional analysis and comparative genomics.";
J. BACTERIOL, 179:7135-7155(1997).
EMBL: AEGO00662: G.2621952;
TRANSFERASE: AMINOTRANSFERASE
SEQUENCE 334 AA; 37853 MM; B585BAAC CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   METHANOBACTERIUM THERMOAUTOTROPHICUM.
ARCHARA: EURYARCHAEOTA; METHANOBACTERIALES; METHANOBACTERIACEAE;
METHANOBACTERIUM.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 334;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 187;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      4; Mismatches 11; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                               01-Jan-1998 (TREMBLREL. 05, CREATED)
01-Jan-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
01-Jang-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
GLUCOSAMINE-FRUCTOSE-6-PHOSPHATE AMINOTRANSFERASE.
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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Pred. No. 3.15e-02;
8; Mismatches 6;
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Pred. No. 7.40e-02;
                                                                                                                                                                                                                                                                                                                                                                                                                                                       187 AA; 21243 MW; D7BE7C22 CRC32;
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07,
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Best Local Similarity 43.3%;
Matches 13; Conservative
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Best Local Similarity 44.08;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           11; Conservative
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01-AUG-1998 (TREMBLREL.
01-JAN-1999 (TREMBLREL.
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Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  "Sequence analysis of the genome of the unicellular cyanobacterium Synechocystis sp. PCG6803. II. Sequence determination of the entire genome and assignment of potential protein-coding regions."; DNR RES. 3:109-136(1996).
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                                                                                                                                                                                                                                                                                                                                                                                                                       KANEKO T., SATO S., KOTANI H., TANAKA A., ASAMIZU E., NAKAMURA Y., MINAJIMA N., HIROSAWA M., SUGIURA M., SASAMOTO S., KIMURA T., MOSOUCHI T., MATSUNO A., MURAKI A., NAKAZAKI N., NARUO K., OKUMURA SHIMPO S., TAKEUCHI C., WADA T., WATANABE A., YAMADA M., YASUDA M., TABATA S.;
                                                                                                                                                                                                                                                       SUGIURA M., TABATA S.; "Sequence analysis of the genome of the unicellular cyanobacterium "Sequence analysis of the genome of the unicellular reguence synchrocystis sp. strain PCC6803. I. sequence features in the IMD region from map positions 64% to 92% of the genome."; DNA RES. 2:153-166(1995).
                                                                                                                                                                                                     STRAIN-PCC6803;
MEDLINE; 96127529.
KANEKO I., TANAKA A., SATO S., KOTANI H., SAZUKA I., MIYAJIMA N.,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDLINE; 94179104.
KIKUCHI Y., NAGATA Y., HINATA M., KIMBARA K., FUKUDA M., YANO K.,
TAKAGI M.;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       "Identification of the bpha4 gene encoding ferredoxin reductase involved in biphenyl and polychlorinated biphenyl degradation in Seudomonas Sp. strain KKS102.";
J. BACTERIOL. 176::6891:1994(1994).

EMBL: D16831: D1004633;
SEQUENCE 410 AA; 44101 MW; AE46220D CRC32;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 74; DB 2; Length 1095; Pred. No. 3.93e-01; 5; Mismatches 8; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ouery Match 25.8%; Score 72; DB 2; Length 410; Best Local Similarity 33.3%; Pred: No. 8.88e-01; Matches 10; Conservative 10; Mismatches 10; Indels
                                  SYNECHOCYSTIS SP. (STRAIN PCC 6803).
BACTERIA; CYANOBACIERIA; CHROOCOCCALES; SYNECHOCYSTIS.
                                                                                                                             TABATA S.;
SUBMITTED (AUG-1995) TO EMBL/GENBANK/DDBJ DATA BANKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PFAM; PF00072; response_reg; 2.
PFAM; PF00512; signal; 1.
SEQUENCE 1095 AA; 120557 MW; 6697EB16 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            410 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CREATED)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                682 LKDLLNYNRQLSRGSVYGGKQE 703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1 LRALLTAPRSLRRSSCFGGRMD 22
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09,
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Best Local Similarity 40.9%;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             BACTERIA; PROTEOBACTERIA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRELIMINARY;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             01-NOV-1996 (TREMBLREL. 01-NOV-1996 (TREMBLREL. 01-JAN-1999 (TREMBLREL. FERREDOXIN REDUCTASE.
CHEMOTAXIS PROTEIN CHEA
                                                                                                                                                                                                                                                                                                                                                                                        STRAIN-PCC6803;
MEDLINE; 97061201.
                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE FROM N.A.
                                                                                                                                                                                 SEQUENCE FROM N.A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQUENCE FROM N.A.
                                                                                        SEQUENCE FROM N.A. STRAIN-PCC6803;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PSEUDOMONAS SP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STRAIN-KKS102;
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Q52437
Q52437;
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MESOCRICETUS AURAJUS (GOLDEN HAMSTER).
EUKARYOTA: METAZOA; CHORDATA; VERTEBRATA; MAMMALIA; EUTHERIA; RODENTIA; SCIUROGNATHI; MORIDAE; CRCCETINAE; MISOCRICETUS.
                                                                                                                                                                          MEDLINE: 94150718.
MEDLINE: 94150718.
MEDLINE: 94150718.
MILSON R., AINDERSON K., BAYNES C., BERKS M.,
WILSON R., AINDERSON K., COPSET T., COOPER J., COLLSON A.,
CRAXTON M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L.,
GARDNER A., GREEN P., HAWKINS T., HILLIER L., JIER M., JOHNSTON L.,
JONES M., KERSHAM J., KIRSTEN J., LATREILLE P.,
LIGHTWING J., LLOYD C., MOUNTRAY A., MORTHORE B., O'CALLAGHAN M.,
PARSONS J., PERCY C., RIFKEN L., ROOPRA A., SAUNDERS D., SHOWNKEEN R.,
SMALLON N., SMITH A., SONNHAAMER E., STADEN R., GULSTON J.,
HIERRY-MIEG J., THOMAS K., VAUDIN M., VAUGHAN R., WAHERSTON R.,
MATSON A., WEINSTOCK L., WILKINSON-SPROAT J., WOHLDMAN P.,
2.2 Mb of contiguous nucleotide sequence from chromosome III of C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                    EUKARYOTA; METAZOA; NEMATODA; SECERNENTEA; RHABDITIA; RHABDITIDA;
RHABDITINA; RHABDITOIDEA; RHABDITIDAE; PELODERINAE; CAENORHABDITIG.
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Pred. No. 3.93e-01;
9; Mismatches 11; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 77; DB 5; Length 2025;
Pred. No. 1.13e-01;
7; Mismatches 5; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COTTAGE A.;
SUBMITIED (MAR-1997) TO EMBL/GENBANK/DDBJ DATA BANKS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CREATED)
LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                       NATÚRE 368:32-38(1994).
EMBL; 292784; E1346409; -.
SEQUENCE 2025 AA; 234375 MW; CF2EB634 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      461 AA; 50890 MW; E937DA34 CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRT; 1095 AA.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        461 AA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       372 MMSSVENSRHSSPAGGPRGRLHGLGGLQCNSF 403
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4 LLTAPRSLRRSSCFGGRMDRIGAQSGLGCNSF 35
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRT;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1127 LKSLTTKNRNVRRGTVFGNRV 1147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26.5%;
Local Similarity 37.5%;
Hes 12; Conservative
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01-JAN-1998 (TREMBLREL. 05,
01-NOV-1998 (TREMBLREL. 08,
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01,
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Best Local Similarity 42.9%;
Matches 9; Conservative
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Q5527
Q5527; PRELIMINARY;
01-NOV-1996 (TREMBLREL. 0
01-NOV-1999 (TREMBLREL. 0
01-JAN-1999 (TREMBLREL. 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRELIMINARY;
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               F31C3.3.
CAENORHABDITIS ELEGANS
                                                                                                          SEQUENCE FROM N.A.
F31C3.3 PROTEIN.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GLYCOPROTEIN
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"A set of ordered cosmids and a detailed genetic and physical map for the 8 Mb Streptomyces coelicolor A3(2) chromosome.";
Mol. MICROBIOL. 21:77-96(1996).
EMBL: AL021409; E1245723;
PROSITE: PS00606; B_KETOACYL_SYNTHASE; 1.
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                                                                                                                                                                 STREPTOMYCES COELICOLOR.
BACTERIA; FIRMICUTES; ACTINOBACTERIA; ACTINOBACTERIDAE;
ACTINOMYCETALES; STREPTOMYCINEAE; STREPTOMYCETACEAE; STREPTOMYCES.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             'Complete genome sequence of Methanobacterium thermoautotrophicum
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ARCHAEA; EURYARCHAEOTA; METHANOBACTERIALES; METHANOBACTERIACEAE;
METHANOBACTERIUM.
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Pred. No. 8.88e-01;
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                                                                                                                                                                                                                                                                                                                                                                                                                           STRAIN=A3(2);
OLIVER K., HARRIS D.;
SUBMITTED (JAN-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STRAIN-A3(2);
PARKHILL J., BARRELL B.G., RAJANDREAM M.A.;
SUBMITTED (JAN-1998) TO EMBL/GENBANK/DDBJ DATA BANKS.
                                                                                                                                                                      CREATED)
LAST SEQUENCE UPDATE)
LAST ANNOTATION UPDATE)
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01-JAN-1998 (TREMBLREL. 05, LAST SEQUENCE UPDATE)
01-AUG-1998 (TREMBLREL. 07, LAST ANNOTATION UPDATE)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2297 AA; 241989 MW; 24BE710A CRC32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        5; Mismatches
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                                                                                                                          2297 AA
1: |||: || ::| ::| ::| || 2 RALLTAPRSLRRSSCFGGRMDRIGAQSGLG 31
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                                                                                                                          PRT;
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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match 25.8%;
Best Local Similarity 44.0%;
Matches 11; Conservative
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                                                                                                                          PRELIMINARY;
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MEDLINE; 98037514.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQUENCE FROM N.A.
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MEDLINE; 97000351
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026659
026659;
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                                                                                                   RESULT
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Gaps
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                                                                             Query Match 25.4%; Score 71; DB 1; Length 232; Best Local Similarity 37.9%; Pred. No. 1.33e+00; Matches 11; Conservative 5; Mismatches 11; Indels
                   EMBL; AE000838; G2621635; -. SEQUENCE 232 AA; 26259 MW; B9545E8B CRC32;
                                                                                                                                                                     99 LVLPHCLRNPEC-EARLERTGLICT-GCN 125
                                                                                                                                                                                              J. BACTERIOL. 179:7135-7155(1997).
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